960H

Concept Pro

VXH960-4 | VXH960-8 | VXH960-16

4, 8 & 16 Channel Full HD DVR

USER MANUAL

Copyright

This manual without the manufacturer's approved copy and reprinted partially or in full, or translated into another language is prohibited.

Limitation of Liability

This product is designed to prevent fire and theft is not the main means. We shall not be liable for accidents or damage by using this product can result in liability for accidents or damage

In order to improve the performance of the product without prior notice to the product may be a firmware upgrade.

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Safety Instruction

Concept Pro will not have any responsibility for any accident or damage that may occur during the use of the VXH960. For your safety, we provide a few instructions about installation, control, and cleaning of the product. Please read carefully and comply with the instructions. The warranty will be void if the "warranty void if broken" sticker is damaged or has been removed.

Before installation

Comply with the following instructions to prevent a fire, explosion, system failure shock. or electric shock.

- Remove the power supply before proceeding.
- Check the input voltage (AC100V–AC240V) to the power supply before connecting it.
- Keep the product away from humidity.
- Ensure that all devices connected to the product are correctly earthed.

In operation mode

Comply with the following instructions to prevent a fire, explosion, system failure or electric shock.

- Do not connect multiple devices to a single power socket.
- Keep the product away from dust or combustible substances (ex: propane gas).
- Do not touch it with wet hand.
- Do not insert a conductor in the vent of the ventilation
- Do not apply excessive force to unplug the power cord.

Disassembly & Cleaning

- When cleaning on the surface, use a dry cloth.
- Do not wipe the product using water, paint thinner or organic solvents.
- Do not dismantle, repair or modify the product by your own, contact your supplier.

During installation

To prevent an accident or physcial injury to operate the DVR correctly, please comply with the following:

- Secure at least 18 centimeter of distance between cooling fan and wall for a proper ventilation.
- Install the product on a flat surface.
- Keep it away from direct sunlight.

While in use

- Do not apply force to or shake it while in use.

Warranty is void if the "warranty void if broken" sticker is broken

This product is capable of receiving up to 16 960H video and audio inputs, it is also able to record onto a hard disk drive in realtime, as well as providing monitoring, playback and backup footages in excellent quality of 960H resolution. It also provides transferring of video and audio data to the networked external devices, which allows a remote monitoring environment for computers and smart phones.

- Up to 16 channels of 960H camera video can be displayed at 400 fps in real time
- Up to 16 channels of 960H camera video can be saved at maximum 400 (PAL) fps.
- Simultaneous recording and playback of maximum 16 channels (at 120 fps @ 960H)
- Supports H.264 HP (High Profile) CODEC
- Auto alarm feature with self-diagnostics on the system (HDD S.M.A.R.T, system temperature, network error, FAN error, etc.)
- Supports dual streaming for remote access service
- Supports HDD extension (eSATA)
- Various search methods (time, event, bookmark and thumbnail)
- Mass storage backup via USB port or FTP server
- Supports remote access and search using web browser
- Dedicated smart phone applications that can be used with iOS and Andriod
- 1080p Full HD GUI

Overview

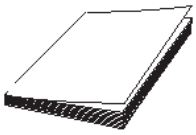
Whats Included

Mouse x1

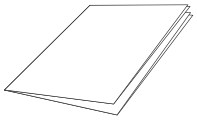
Remote Control x1
& Batteries (AAA x2)

User Manual CD x1

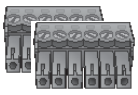
Power Cable x1



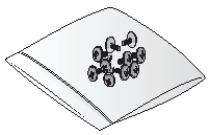
User Manual x1



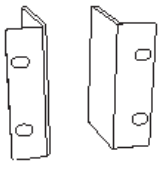
Quick Guide x1



Terminal Blocks x2



Screws (for fixing rack mount)



Rack Mounts

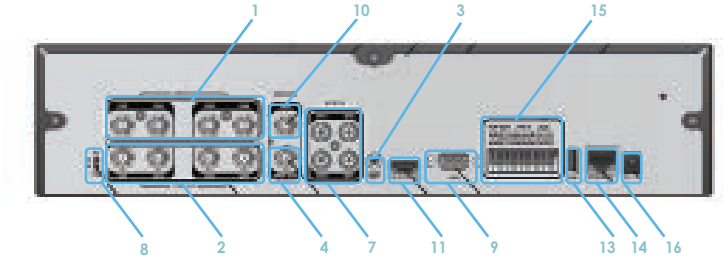
4 Channel

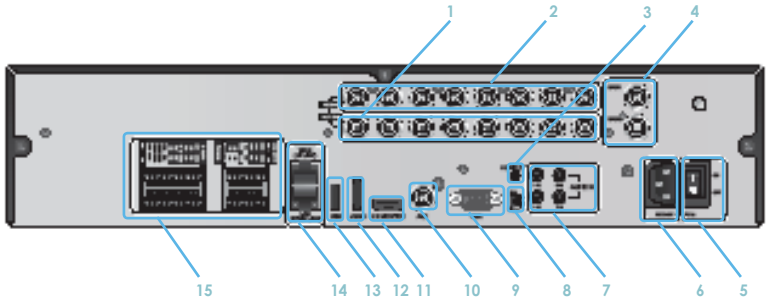
8 & 16 Channel

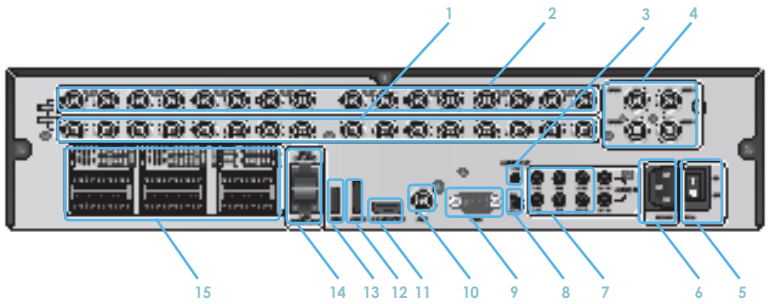
No.	Name		Description
1	IR Remote Control Receiver		Receive the signal from the remote control.
2	USB		For connecting USB devices such as a mouse or memory stick.
3	Status LED		Show the status of power, recording or network connection together with any corresponding alarm.
4	HDD 1~5 / eSata		Indicates connection status of internal/external storage devices

Rear Panel

4 Channel







No.	Name	Description
1	VIDEO IN	Video input terminal for cameras.
2	LOOP OUT	Video output to send a signal to an external video device.
3	AUDIO OUT	Port for speaker connection.
4	SPOT	Exclusive port for SPOT output only. (Connect to a monitor.)
5	Power Switch	DVR power switch. Plug the power cord and turn this switch on.
6	100-240V (50/60Hz)	Power input port.
7	AUDIO IN	Port for audio input.
8	DIP Switch	Switch to select a video type or an output type. Set to PAL
9	VGA	VGA monitor video output port.
10	AUX	Additional SPOT OUT port. (Connect to a monitor.)
11	HD-MONITOR	HD monitor video output port (HDMI).
12	eSATA	Connection port for external eSATA storage.
13	USB	Used for connecting USB storage or mouse.
14	WAN(UPLINK)	Network port for connection to the Internet, router or hub.
	LAN(DOWN LINK)	Port for connecting the dedicated network device. Do not share it with other device.
15	ALARM IN	Alarm input port.
	ALARM OUT	Alarm out port. (TTL)
	RELAY	Relay terminal port.
	RS485	Ports for communication with external devices such as PTZ camera and system keyboard.
	RS232	Connection ports for signal cables to external devices such as PTZ camera, POS and ATM devices.

Power
Turn on or off the power.

Search
Display the search window

Archive
Display the backup window

Channel
Function as channel selection button in live or playback mode, or used for entering the password.

Display
Switch the split mode

SEQ
Switch the sequence mode

Snapshot
Take a snapshot of the video

▲▼◀▶
Used to change the direction or adjust the play speed in playback mode.

Exit
Exit from the current screen and return to the previous screen

Enter
Select a menu item or apply your settings.

Logout
Log out

Panic
Start the emergency recording

Alarm
Show the alarm status with a popup window

Setup
Display the system setup menu

ID
Set the remote contol ID

Log
Display the log list

Audio
Display the audio channel selection window

Keylock
Lock the operation unit

Reserve
Reserve the current video

Menu
Dislpay the tool bar on the live screen

▲▼◀▶
Use to move through the menus

Zoom/PTZ
Enter the PTZ or digital zoom mode and control the operation

Change the remote control ID

The remote control works only if the remote control ID matches that specified on the DVR.

If multiple DVRs are used with a single remote control, use the ID button to set the remote control ID.

Only the ID-matching the DVR can be controlled.

- From <SYSTEM> - <CONTROL DEVICE> under the System Setup menu,

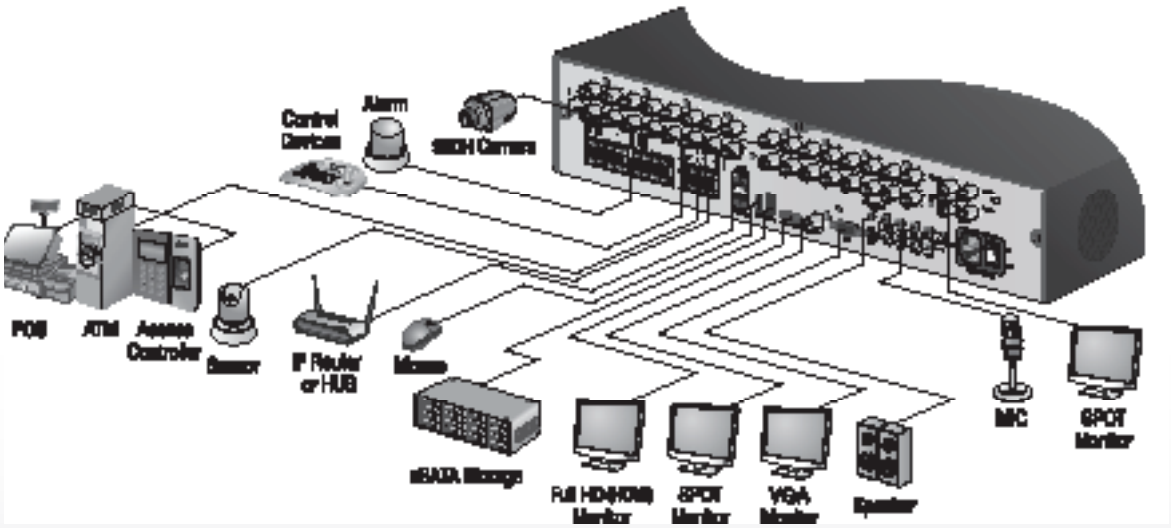
  set the <REMOTE CONTROLLER ID> and press <APPLY >.

  Select between 00 and 99. For more details, refer to <SYSTEM SETUP>.
- Press the [ID] button on the remote control. The default remote control ID is 00.
- Use the number buttons to provide a two-digit ID. If you want to enter 01, for instance,

  enter the number 0 and 1 in sequence.

  Check if the remote control ID is set properly by manipulating the remote control.
- To reset the ID to 00, press and hold the [ID] button.

Basic Layout



Precautions

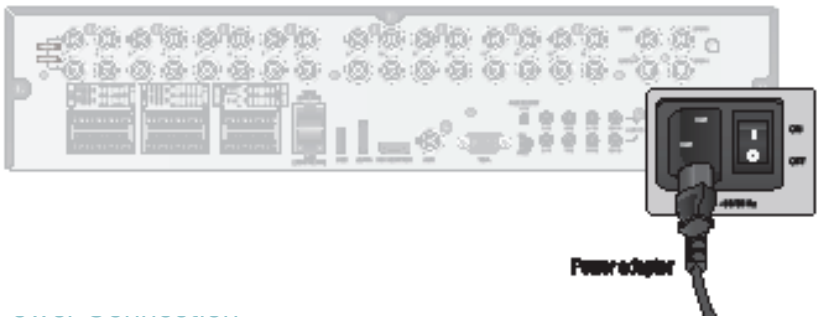
Since the cable quality may affect the video quality depending on the distance between the camera and DVR, it is recommended to consult an authorized installer when installing the DVR.

Connecting to a monitor

This product supports 1080p 60 Hz HDMI monitors and regular monitors that support VGA inputs. Connect a HDMI cable to the port on the rear of the VXH960 or use a VGA cable to connect the DVR with a VGA monitor

- Once the product is set to NTSC or PAL connect cameras of the corresponding videostandard for proper operations.
  Setting the product to NTSC or PAL decides available display output modes too.
  - ☑ The monitor's displaying operates at 50Hz if the product has been set to PAL output and the connected monitor supports both 50Hz and 60 Hz inputs.
    For NTSC setting, it works at 60 Hz.
  - ! Make sure to connect the product to a monitor that supports 1920x1080 at 60Hz.

Power Connection



Apply power to DVR main unit, and connect the provided DC 48V power supply adaptor to the external PoE switch (Power over ethernet).

- Plug the power cable into the unit whilst the power is off at the wall.
- Arrange up the cables and be careful not to peel off the cable coating.
- Do not place the power cord under the carpet or rug. The power cord is usually earth-grounded. However, even if it's not earth-grounded, do not modify it for earth-grounding.
- Do not insert multiple devices in a single power socket. Otherwise, it may cause a power overload.
- For a stable power supply, this product provides two separate separate adaptors and two corresponding AC cords by factory default. Make sure all cables are connected properly.

Alarm I/O Connection

To connect the alarm input signal

Connect the signal line of an alarm input device such as sensor to the rear [ALARM IN] port.

1. Loosen the screws on both the alarm input port and [GND] port of the provided terminal block plug.
2. Insert one end of alarm signal cable through the [IN1] or [IN8] terminal hole below the screw hole, and then fasten the screw
3. Insert the ground signal wire into the hole of the [GND] port, and tighten the screw.
4. To check correct attachement of the cable, stop pushing and gently pull the cable and test whether it disconnects.

   To disconnect the cable, push the bottom side of the terminal block and pull out the cable.

To connect the alarm output signal

Connect the signal line of an alarm output device to the rear [RELAY] port.

1. Loosen the screws on the [NO] and [NC] ports and the [COM] port of the provided terminal block plug.
2. Insert the alarm signal wire into the hole of the [NO] or [NC] input port.

   Check the relay output type of Normal Open or Normal Close before selecting a proper type (NO or NC).

   > NO (Normal Open): Normally Open but switching to Close if an alarm out occurs.

   > COM: Insert the grounding wire.

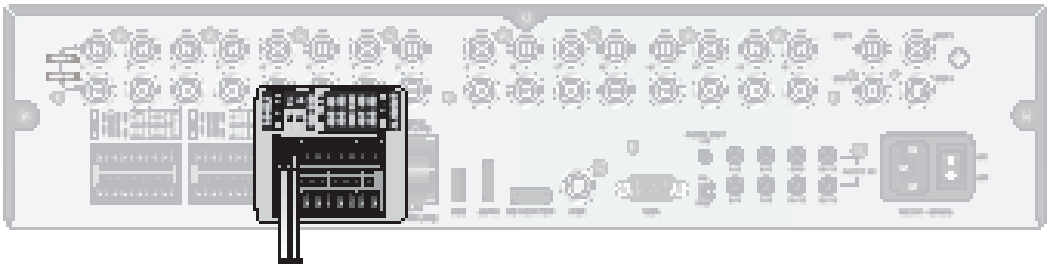
   > NC (Normal Close): Normally Close but switching to Open if an alarm out occurs.
3. Insert the ground signal wire into the hole of the [COM] port.

Or, you can connect the signal cable of the alarm output device to the [ALARM OUT] port on the rear side.

1. Loosen the screws on the [AO1] and [AO8] ports and the [GND] port of the provided terminal block plug.
2. Insert the alarm signal wire into the hole of the [AO1] or [AO8] input port
3. Insert the ground signal wire into the hole of the [GND] port
4. To check the correct attachment of the cable, stop pushing and gently pull the cable and test whether it disconnects.

   To diconnect the cable, push the bottom side of the terminal and pull out the cable.
5. Put the wire-connected terminal block in the rear port.

Communication Port



RS-485 Connection

Connect a PTZ Camera or Keyboard Controller.

After connecting the control device, be sure to match the connection settings between DVR and device.

Communication settings are in <Control Device>. (page 46)

1. Use a signal cable to connect the [D+] port of the terminal block plug and the [D+] port of the keyboard controller.
2. Connect the [D+] port of the terminal block plug and the [D+] port of the keyboard controller.
3. Connect the [GND] port of the terminal block plug and the [GND] port of the keyboard controller.

☑ For RS-485 communication configuration, refer to the user's manual of the applicable PTZ camera or keyboard controller.

Audio Device Connection

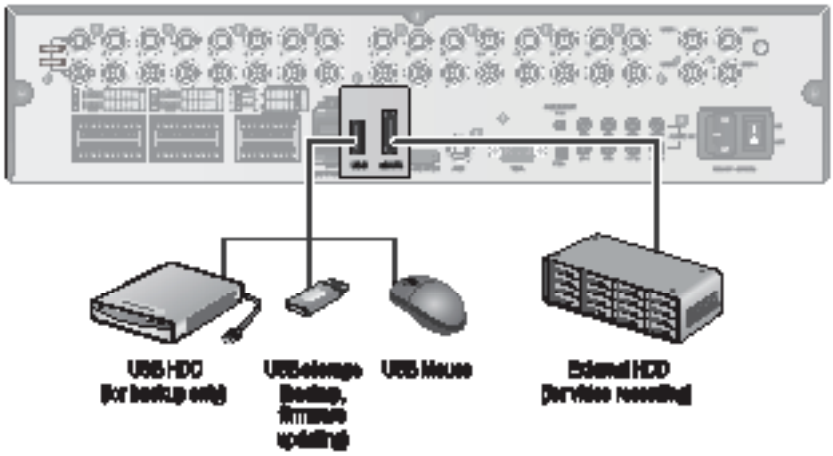
You can connect an audio output device such as speaker amplifier.

Connect the audio input device such as microphone to the rear Audio In port, connect the audio output device such as speaker amplifier to the Audio Out port.

eSATA Storage

If the internal storage space is insufficient, you can extend your storage capacity by adding an eSATA storage device to the rear eSATA port.

! Using devices other than recommended eSATA products may cause a serious problem.



USB Device

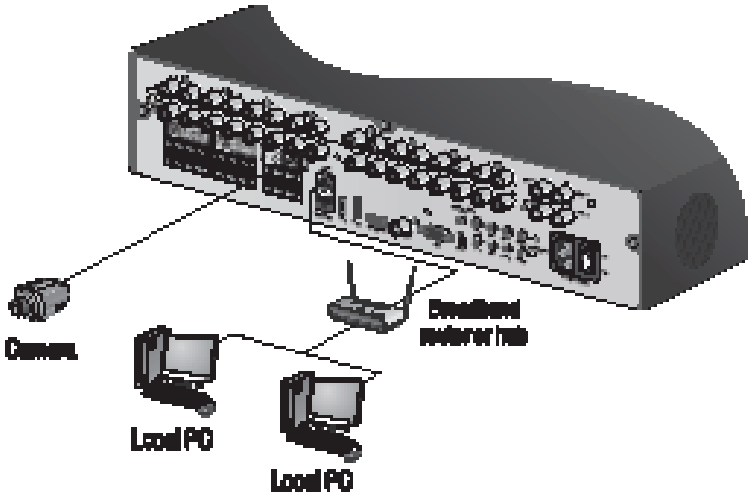
You can connect and use USB storage devices to backup recorded video, saving snapshots, firmware updating, importing/exporting user configurations. A USB mouse can be connected to control the VXH960

! If you need to connect a USB HDD with a high power consumption, it is recommended to use a separate power source for that HDD.

Network Connection

PC connection in the local network

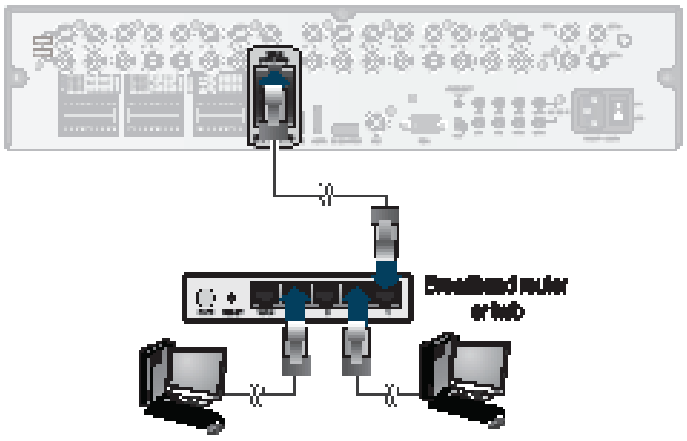
You can connect the VXH960 to a network so that it can be accessed via a PC.



1. Connect the [WAN(UPLINK)] port in the rear panel to the router or hub.

   ☑ The LAN (DOWN LINK) port is reserved and only for servicing and development. (Do not connect devices to this port.)

2. Connect the local PC to the router or hub.



3. Enter the address in the Web browser of your PC in the format of: “http://IP address:Web service port” (Ex: http://192.168.0.23:8080) The web service port is set to 8080 by default. From the Network Setup screen, you can change the port number.

   ☑ If using the dedicated PC S/W, refer to the user manual of the program.

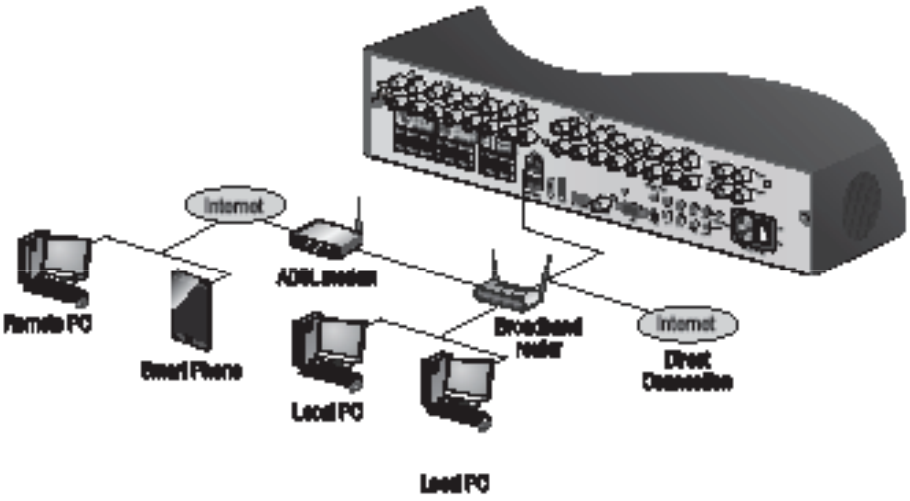
4. Provide the ID and password bfore logging in, then you can view the monitoring screen.

   Factory defaults are: User ID: ADMIN, Password: 1234

   ! For security purpose, change the password before you use the product for the first time after purchasing it.

PC connection from the network

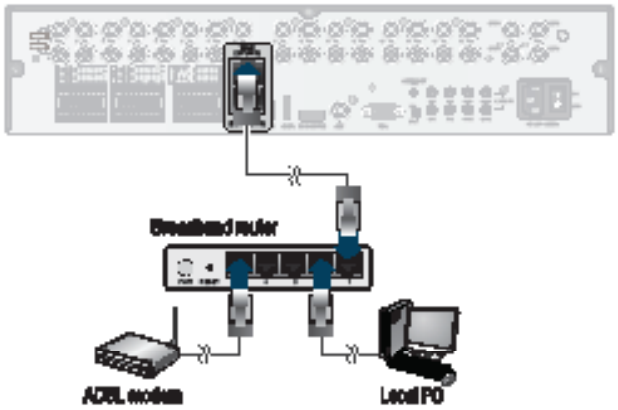
You can connect the DVR to a PC or mobile device on the same network and control it on the PC or mobile device



1. Connect the [WAN(UPLINK)] port to the router or switch on the

   ! The LAN (DOWN LINK) port is reserved and only for servicing and development.

   (Do not connect devices to this port.)



2. If using the router, set the port forwarding and ener the DDNS or IP address in the address bar of a web browser on the PC, dedicated software or smart phone.

   For the IP and DDNS address settings, refer to “Network Setup”. (page 39)

3. If the MAC address of the DVR is 00-11-5F-12-34-56 and the web port number s 8080, enter “http://00115f123456.dvrlink.net:8080” in the address bar of the web broswer. If you have renamed DDNS as “mydvr”, you can enter http://mydvr.dvrlink.net:8080 in the address bar of the web broswer.

Start

1. Connect the power adapter to the poer input port on the DVR's rear side

   ! Make connection when the power is not applied yet..

2. The front LED turns on and it will be when the unit boots up, you will also see the boot up screen
3. When the booting process is completed, the live screen then the login screen appears

Log In

To access the menus of the DVR, you need to log in.

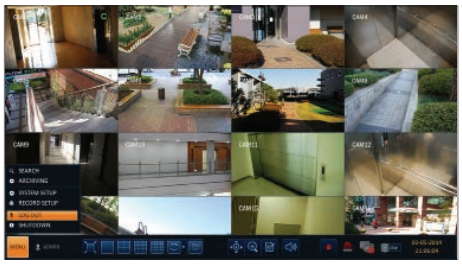
1. When the system starts, the login screen appears.
2. Select a user and provide the password.

The default password of the "ADMIN" account is "1234".

3. Click <OK>.

   If the login information is correct and valid, you will see the live screen.

   ! *For security purpose, change the password before you use the product for the first time*



Log Out

To prevent unauthorized access, it is recommended to log out when you leave the screen.

☑ Hover the cursor near the bottom of the screen to display the menu.

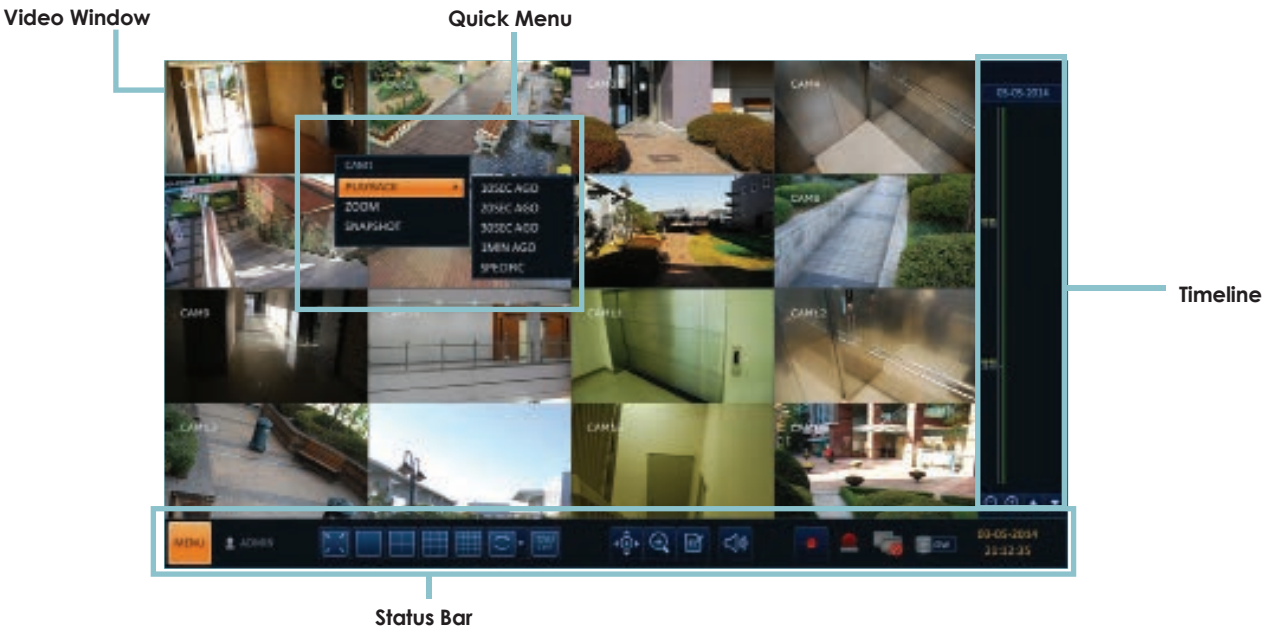
1. In the monitoring screen, click <MENU> in the bottom left corner of the screen and then click <LOGOUT>, or press the [LOGOUT] button on the remote control.
2. While logged out, Search, Backup, System Settings, Record Settings and Exit menus are unavailable to use.

System Shutdown

1. In the monitoring screen, click <MENU> in the bottom left corner of the screen click <SHUTDOWN> the system, or press the [POWER] button on the remote control.
2. Use the virtual keyboard to enter the password.
3. Be sure to turn off the power switch on the rear panel.

> ! If you turn off the system in an abnormal manner such as removing the power cord while the system is in operation, the disk will create or increase the bad sectors, causing data loss and shortening the life cycle of the disk.

The live screen largely consists of four components: video window, status bar, timeline zone and quick menu



Video Window

Icons used in the video window.

ITEM		Description
Camera ID	CAM1	Show the camera ID.
Record Mode Icons		Displayed if an event recording is reserved.
	C	Display if continuous recording is active
	A	Display if an alarm recording is active.
	M	Display if a motion event recording is active.
	P	Display if emergency recording is active.
Audio I/O Icons		Displays if the audio signal of the connected camera is operational.
Motion Detection Icon		Displays if motion detection is active.

Status Bar

Press the ▼ button on the remote control, or place the mouse in the lower area of the screen to display the status bar.

ITEM		Description
Menu Button		Select either the system setup, search and archiving menu.
User ID		Show the ID of the user who has currently logged in.
Screen Control Buttons		Edit the screen layout to show the status bar and timeline at all times or only when the mouse cursor hovers on the status bar/timeline.
		Select a split screen mode.
		Select Auto Sequence Mode. When a user arranges channels on desired tiles of split screen, such setting is listed for later access. Selecting a screen setup directly switches the screen mode as configured.
		Display or hide the OSD menu on the screen.
PTZ		Move to the PTZ screen. You can control the PTZ operations of a PTZ-compliant camera on the PTZ screen.
Zoom		Activate the Digital Zoom.
Quick Log		Display the log list of the recent recording events.
Audio Channel Selection Button		You can use the camera supporting the audio input to listen to the audio.
Panic Record		Start/stop the panic recording.
Alarm Indicator		Turns on if an event occurs. Click this to check the information of the event that occurred.
Network Connection Status		Check if a connection is made to the networok, a PC or a mobile device. Click this to view the details of the concurrent users and to check the network connection status. For more information, refer to “Network Setup”. (Page 39)
Disk Space		Show the disk space information. If you have set the disk overwrite mode, it will be displayed “OW” (Over Write) from the start point of the overwriting. Click this to view the details of the disk status. For more information, refer to “Disk Operations”. (page 48).
Date & Time		Display the current time and date.

Timeline

Press the ▶ button on the remote control or move the cursor to the right of the screen to display the timeline.
Double-click the timeline to move to the video screen. Drag and drop it to make backup or event search for the specified area.

ITEM		Description
Timeline Date		Display the date of the current timeline. Click this to select a desired date of the timeline.
Expand/Collapse the timeline		Expand or collapse the timeline.
Navigation through Timeline		Navigate through the timeline, or use the mouse wheel.
Timeline Bar		Display the recording data. The colour of each bar indicates the following: • Green: Continuous Recording • Red: Alarm Recording • Blue: Motion Recording • Yellow: Panic Recording

Quick Menu

Right click on a channel to display the quick menu

ITEM	Description
Channel No	Display the number of the current channel.
Play	Start playing the video of the selected channel from the specified time.
Zoom	Operates (digital) zooming on the selected channel.
Snapshot Capture	Capture a snapshot of the current video in a .jpeg format. ☑ Then, you can save the captured video in the HDD or export it to an external USB memory device.

Using the status bar in the live mode

Selecting a split screen mode

Click a desired split mode from 1, 4, 9 and 16 split screen. Or press the [DISPLAY] button on the remote control until a desired split mode is displayed.

Auto sequence

Click the Sequence button in the status bar, or press the [SEQ] button on the remote control to perform the specified sequence mode.

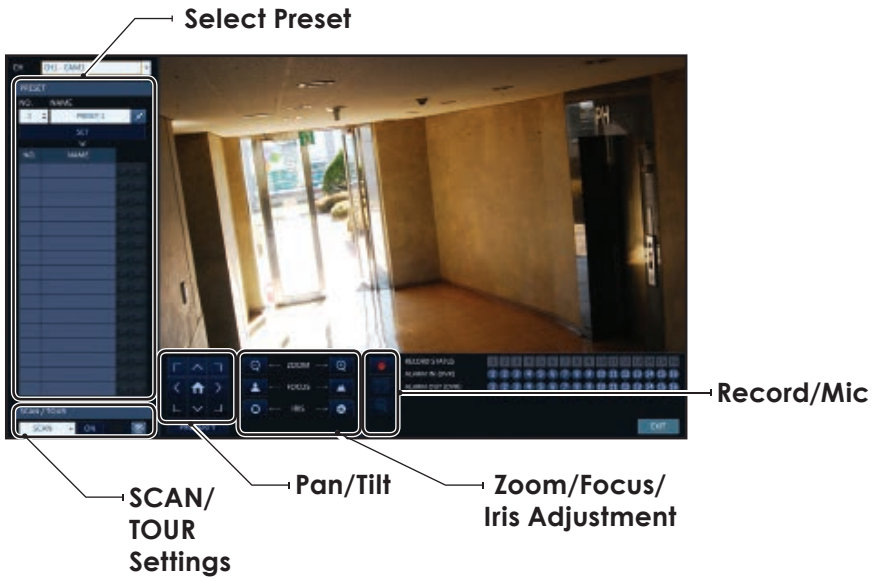
You can configure the sequence settings in <SEQUENCE>.

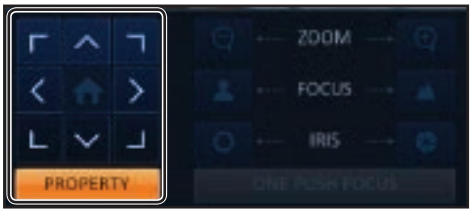
For details, refer to “Sequence”. (page 33)

Controlling PTZ

You can control PTZ cameras connected to each channel. Use the mouse to click PTZ button on the status bar, or press the [PTZ] button on the remote control to initiate the predefined sequence.

In PTZ mode, use buttons on the screen to control PTZ or use [ZOOM], [FOCUS] and [PRESET] buttons on the remote control.

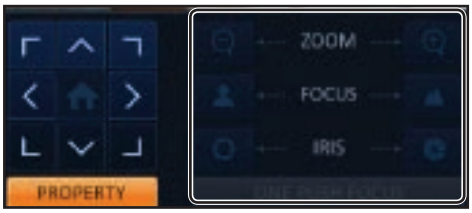




Pan/Tilt Control

Use the mouse to rotate the PTZ camera in the direction of up/ down/left/ right and diagonal directions.

You can control Pan/Tilt with [▲▼◀▶] buttons of the remote control.



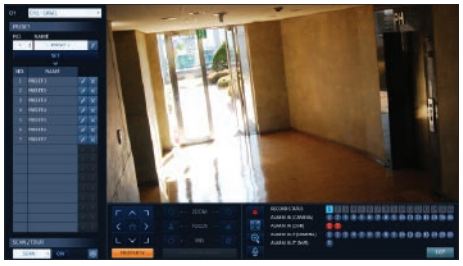
Zoom / Focus Control

You can control the PTZ camera for zooming and focus adjustment.

- Click <ONE PUSH FOCUS> button to adjust the camera's focus automatically. (Requires a supported camera)
- If the connected camera supports manual iris adjustment, you can adjust the iris setting.
- With the remote control use the [ZOOM] and [FOCUS] button

1. To change the individual PTZ setting click <PROPERTY> (for auto focus, auto IRIS, pan/tilt speed, zoom speed, focusing speed, iris speed).

   ☑ Depending on the PTZ camera manufacturer and model, some of the PTZ properties may not be applicable.



> CH: Selects the PTZ camera connected to the DVR.

> PRESET (No. / Name): You can select the preset number and name.

☑ Up to 255 presets can be selected for a PTZ camera, while up to 16 presets can be registered to one DVR.

2. Control the Camera's PTZ while watching the video. Press the <SET> button to append the preset.

> Click the shortcut icon to move to the corresponding PTZ (preset) position.

> Click Delete icon to delete the corresponding preset.

☑ PRESET: Memorizes the PTZ camera'sfield of view for direct access at a later time.

Scan / Tour

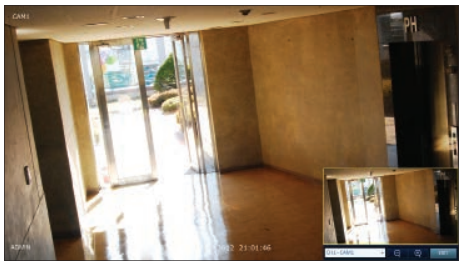
1. Select <SCAN> and click the <ON> button.
2. Click the <> icon.

3. Select a user-defined preset and register it.
   > DWELL: Sets the dwell time of 00 seconds before moving to the next preset location.

   ☑ <SCAN> function patrols two preset positions at the specified speed and interval for back-and-forth monitoring.
4. Select <TOUR> and click the <ON> button.
5. Click the <> icon.

6. Select a user-defined preset and register it.
   > DWELL: Sets the dwell time of 00 seconds before moving to the next preset location.

   ☑ <TOUR> function patrols multiple presets in order (PRESET 1 ; PRESET 2 ; PRESET 3 ;…) for automated patrolling monitoring.



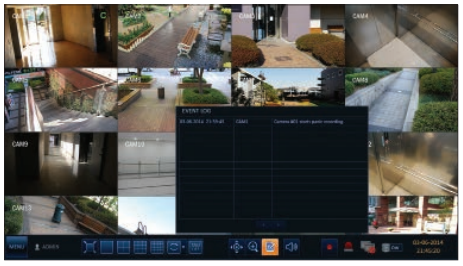
Digital Zooming

You can enlarge the monitoring screen for better view.

Zooming will enlarge the video of the selected channel. If no channel is selected, channel 1 will be zoomed.

1. Click Zoom in the status bar or move the cursor to a desired channel and right-click it to display the context menu. Select <ZOOM> or press the [ZOOM] button on the remote control.
2. Move to the zoom control screen. When the menu bar appears in the right bottom, use the buttons to control the zooming.
   - > CH1 - CAM1 Select a channel to zoom in/out.
   - > Zoom out the current image step by step.
   - > Enlarge the current image step by step.
   - > Zoom Box Use the yellow box to move to or select a desired zooming area.
   - > EXIT Exit the zooming screen and return to the live screen.

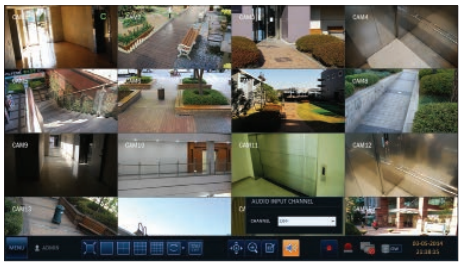
☑ Digital zooming magnifies the video image digitally and produces enlarged images that may not be sharp and clear.
For sharper and clearer magnification, it is recommended to use cameras supporting optical zoom.



To check the event log

You can check the log of the events that occurred

1. Click Log to display the “EVENT LOG” window.
   The log list is sorted with the latest one at the top.
2. Double-click a desired log to display the event video.
   You will move to the play screen of the selected log



To select an audio input channel

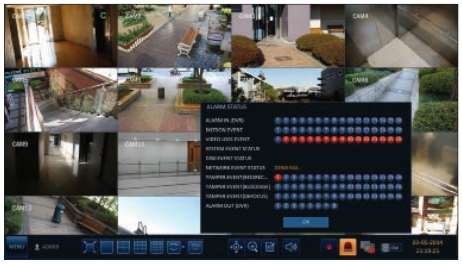
Select a channel from which the audio signal will bereceived.

- > CHANNEL: Produces the selected channel’s audio, regardless of the split screen mode.
- > LINK TO FULL SCREEN: When switching the DVR display mode to view one channel (Single Split), it produces the selected channel’s audio.

☑ A camera supports audio input should be used, and the DVR is connected to a speaker

To select an audio output channel

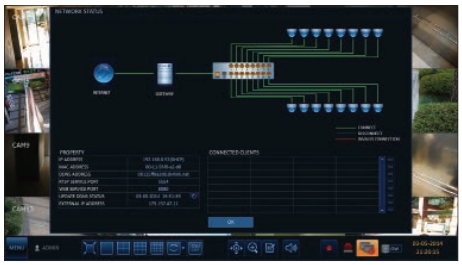
Select the audio output from a connected microphone by clicking



Alarm status

You can check alarms and events from each camera and the system.

Click <OK> to close the window.



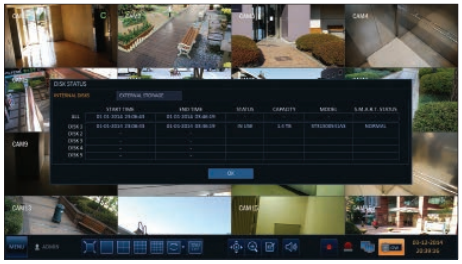
Network status

Shows connection status of cameras and network devices.

Click to display detailed information on current users and network connections.

Click <OK> to close the window.

☑ For more information, refer to “Network Status”. (page 42).

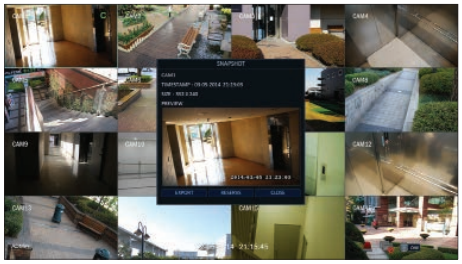


Disk status

You can check status and information on storage devices currently connected to the system.

Click <OK> to close the window.

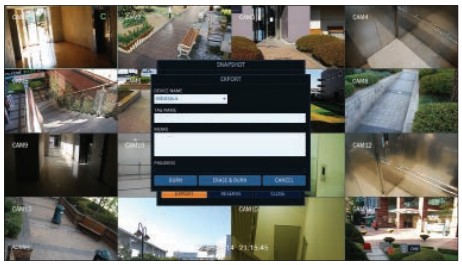
☑ For more information, refer to “Disk Information”. (page 47).



Saving captured snapshots

You can capture the current video screen and save or export to a connected storage device.

1. Select a channel first, and right click to open the popup menu, and select <SNAPSHOT> menu item, or press the [SNAPSHOT] button on the remote control.



2. Connect a storage device, and click the <EXPORT> button.

To save the captured image onto the built-in HDD, press the <RESERVE> button.

☑ Saved image can be found in the “**Archive>Reserved data management**” and can be backed up (Page 72)

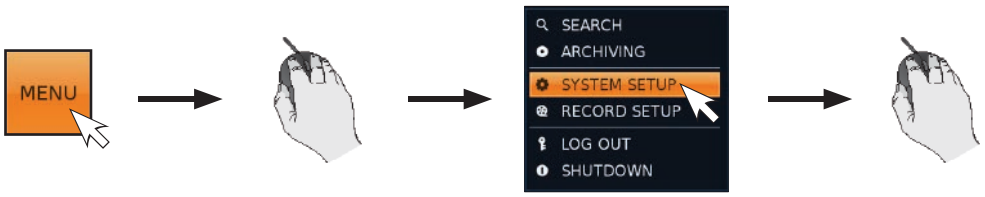
3. Enter the <TAG NAME> and <MEMO> and press <BURN> or <ERASE & BURN> button.
   - > A progress bar appears and indicates the progress of exporting to storage device.
   - > BURN: Snapshot is stored in the connected USB storage device.
   - > ERASE & BURN: Deletes all files in the connected USB storage and then saves the snapshot.

! Note that <ERASE & BURN> option erases all data in the USB storage device and will not be restored once deleted.

To enter the System Setup menu

Using the mouse

How to use the mouse



Using the remote control 1

How to use the remote control 1

Using the remote control 2

How to use the remote control 2

You can configure the display settings of the: camera title, image setup, covert setup, mtion sensor, PTZ settings, privacy mask and tamper detection

Camera Title

You can change the camera ID that is displayed on the screen.

1. From <SYSTEM SETUP> - <CAMERA>, select <CAMERA TITLE>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to select a channel that you want to rename.
   Alternatively, double-click the camera to rename from the top left corner.

3. Once the virtual keyboard appears, select the desired alphanumeric characters to input, and press the <OK> button.
   ☑ The <SHIFT> key toggles case sensitivty.
4. To apply the change, click <APPLY> in the bottom of the screen.
5. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.
   ☑ Camera name allows up to 8 letters, combining numbers and upper/lower case letters.

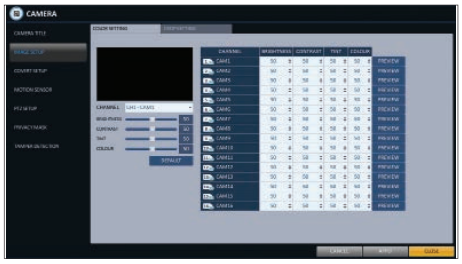
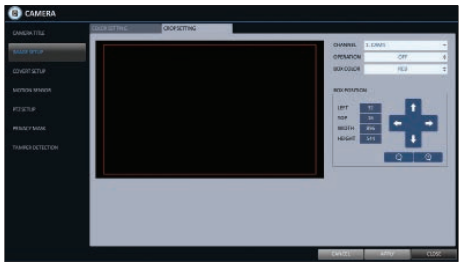


Image Setup

You can adjust the brightness, contrast, color and quality setting of each channel's camera.

1. From <SYSTEM SETUP> - <CAMERA>, select <IMAGE SETUP>.
2. Use [▲▼◀▶/ENTER] buttons on the remote control or the mouse to edit the settings.
3. To apply the changes, click the <APPLY> button.
4. Once completed with the setup, press the [EXIT] button on the remote control or click the <CLOSE> button on the bottom of the screen. A confirmation dialog appears and returns to the previous menu.
   Press <PREVIEW> button for adjusting with preview image.



Crop Setup

You can crop a picture to remove any unwanted view from the camera

1. From <IMAGE SETUP> click the tab < CROP SETTING>.
2. Use the [▲▼◀▶ / ENTER] buttons on the remote control or the mouse to change the channel or the box position.
3. To apply the changes, click <APPLY> in the bottom of the screen.

Covert Setup

You can set the VXH960H to hide the video so that a specific user's or user group's can not view it. Set the channel(s) that you want to hide from a specific user or user group.

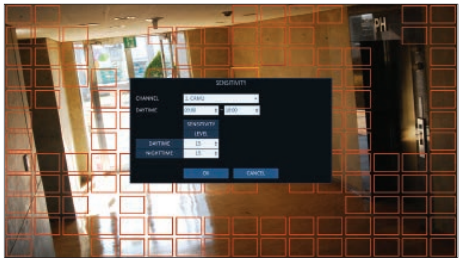
1. From <SYSTEM SETUP> - <CAMERA>, select <COVERT SETUP>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to select a covert channel(s) from a specific user group.
   - > ADMIN, MANAGER, USER: Set them to <ON>. The selected channel will be covert from the applicable user account.
   - > LOG OUT: Set it to <ON>. When the user logs out, the current channel will be set to a covert channel.
   - > SHOWN AS: Sets how a <COVERT> channel will be displayed on the monitor.
     - No Video: Nothing is displayed on the monitor for the <COVERT> channel as if it is not connected to a camera.
     - COVERT: Hides only the live monitoring.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

Motion Sensor

Set the motion sensor of the camera so that it can detect a motion event.

1. From <SYSTEM SETUP> - <CAMERA>, select <MOTION SENSOR>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to specify the use of each option item.
   - > ACTIVATION: turn on or off the motion sensor.
   - > MARK: Set to <ON> to display the motion detection indicator on each video tile where applicable.
   - > SENSITIVITY: Set the sensitivity level of the motion sensor to either Daytime or Nighttime.
   - > EDIT AREA: Specify the motion detection area.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

! The motion detection sensitivity may differ depending on the characteristics of the connected camera or the installation environment.



Motion Area Setup

From the motion setup window, click <EDIT AREA> in the right corner to display the area setup screen.

Setting the motion area may differ depending on the camera model. Below is a typical setting of the motion area.

1. Click <EDIT AREA> to move to the motion area setup screen.
2. If using the remote control, press the [ENTER] button to mark the current position.
3. Use the arrow buttons to move to a desired block and press [ENTER]. The area setup will begin.

   Then, use the arrow buttons to specify the area.

   ☑ Alternatively, you can use the drag-and-drop method to specify or release the area when using the mouse.
4. If you select the specified area again, it will be released.
5. Press the [EXIT] button on the remote control or right-click any area to display the popup window as shown in the picture to the left.
6. While the popup window is displayed, select <Sensitivity> to set the motion detection sensitivity of the channel currently selected.
   - > Channel: Select the channel to set the motion sensitivity.
   - > SENSITIVITY: 1 (Low) ~ 30 (High) - The higher the number is, the higher the sensitivity level becomes.
   - > DAYTIME: specify the time period that will be considered as daytime.
     - DAYTIME: specify the <SENSITIVITY> for the daytime.
     - NIGHTTIME: specify the <SENSITIVITY> for the nighttime.

☑ Images recorded in a low contrast scene such as at night cause severe noise, triggering the motion event too often.

☑ If unwanted events occur frequently at night, you may want to reduce the motion sensitivity during the night .

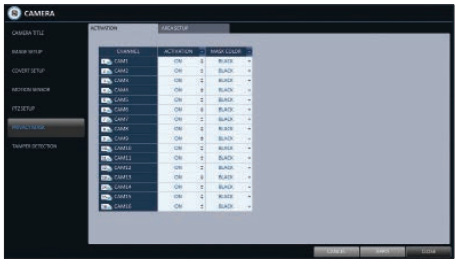
PTZ Settings

You can configure PTZ cameras connected to each channel. Set the camera ID, protocol, baud rate and PTZ control speed for each channel.

1. From <SYSTEM SETUP> - <CAMERA>, select <PTZ SETUP>.
2. Use [▲▼◀▶/ENTER] buttons of the remote control or mouse to set protocol and baud rate of each channel.

☑ Refer to user's manual of the camera or consult the camera installation service provider for further details on setting the PTZ camera, such as the camera's address, protocol and baud rate.

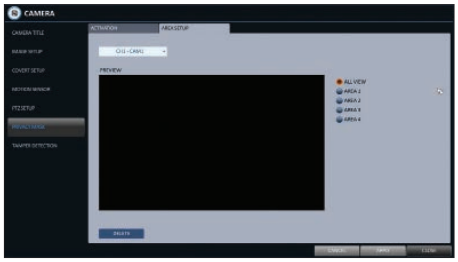
3. To apply your changes, click <APPLY> button.
4. Once the setup is completed, press the [EXIT] button on the remote control or click the <CLOSE> button to display the confirmation dialog. Click <CANCEL> to return to the previous menu.



Privacy mask

Set the privacy mask of the camera so that it can block certain areas of the camera's view.

1. From <SYSTEM SETUP> - <CAMERA>, select <PRIVACY MASK>
2. Use the [▲▼◀▶/ ENTER] buttons on the remote control or the mouse to activate or de-activate and change the colour of the mask.
3. To apply the changes, click <APPLY> in the bottom of the screen.



4. To set the mask area, click the <AREA SEUP> tab at the top. You can set 4 areas per camera.
5. Click <AREA 1> and drag where you would like the mask on the preview. You can do this for each area.
6. Click <ALL VIEW> to see all the privacy masks for that camera.
7. To delete a mask either click <ALL VIEW> or specify an area then click <DELETE>.
8. To apply the changes, click <APPLY> in th bottom of the screen.

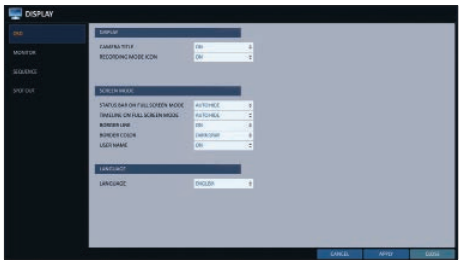
Tamper Detection

You can set the VXH960H to detect tampering with the installed camera

1. Select the <TAMPER DETECTION> from the <CAMERA> menu items in <SYTEM SETUP >
2. Use [▲▼◀▶] buttons on the remote or the mouse to select <MARK, SENSITIVITY> and set the tampering detection conditions appropriately.

3. For each channel, set the day/night sensitivity.
4. Set the activation of each channel, and set whether to display indicator on the screen.
   - > SENSITIVITY LEVEL: The detection sensor's sensitivity for each detection block. (Can be separately set for day / night modes)
   - > ACTIVATION: Set the detection for each channel to be enabled/ disabled.
   - > MARK: Turns on or off the detection indicator to be displayed on the screen.
5. To apply the change, click <APPLY> in the bottom of the screen.
6. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

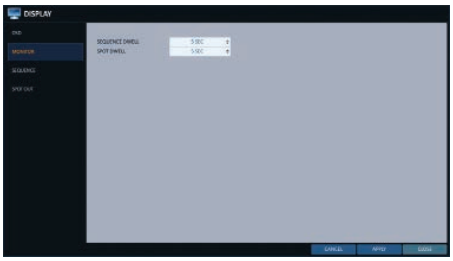
You can configure the display settings regarding the OSD menus, monitor and sequence settings.



OSD

You can set the Camera Name, Icon, Status Bar, Timeline, Borderline, User Name and Language.

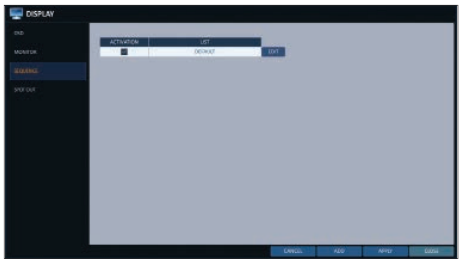
1. From <SYSTEM SETUP> - <DISPLAY>, select <OSD>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to set each option of the OSD item.
   - > CAMERA TITLE: specify the display of the camera title on the screen.
   - > RECORDING MODE ICON: specify the display of the record mode icon on the screen.
   - > STATUS BAR ON FULL SCREEN MODE: select to show or hide the status bar in full screen mode.
     - AUTO HIDE: place the cursor in the lower area of the screen to display the status bar. If moving the cursor up, the status bar will disappear.
     - ALWAYS ON: The status bar will be displayed at all times.
     - 5 SEC ~1 MIN: If there is not any mouse movement from 5 seconds to 1 minute, the status bar will disappear.
   - > TIMELINE ON FULL SCREEN MODE: select to show or hide the timeline in full screen mode.
     - AUTO HIDE: place the cursor in the right corner to display the timeline. If moving the cursor to the left, the timeline will disappear.
     - ALWAYS ON: The timeline will be displayed at all times.
     - ALWAYS OFF: The timeline will not be displayed.
   - > BORDER LINE: specify the display of the border between channels in a split mode
   - > BORDER COLOUR: select a colour for the border.
   - > USER NAME: specify the display of the currently logged-in users on the status bar.
   - > LANGUAGE: select a menu display language.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.



Monitor

If you change from monitoring mode to sequence, you will have to set the interval of the sequence.

1. From <SYSTEM SETUP> - <DISPLAY>, select <MONITOR>.
2. Use the [▲▼◀▶/ENTER] button of the remote control or mouse to set the dwell for Sequence mode and SPOT dwell.
   - SEQUENCE DWELL: Sets the time interval to the next screen mode for Live monitoring, which defines individual screen mode's dwell time in the Sequence. (Can set to 1 sec ~ 60 sec)
   - SPOT DWELL: Sets the time interval to the next view type, which defines individual view type's dwell time for SPOT OUT. (Can set to 1 sec ~ 60 sec)
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE>



Sequence

Select a split mode for the sequence, and also select a list of active items when the sequence is performed.

1. From <SYSTEM SETUP> - <DISPLAY>, select <SEQUENCE>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to add a sequence or change the settings of the existing sequence.
   - ACTIVATION: Select a list that you want to activate the sequence for, only one list will become active.
   - ADD: add a sequence.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

To add a sequence

1. Click <ADD> in the bottom of the screen.
2. When the “ADD” dialog appears, enter a title using the virtual keyboard.
3. Enter the name of the sequence and click <SAVE>.
4. When the <ADD VIEW TYPE> dialog appears, click<ADD>.
5. When the “SEQUENCE SETUP” dialog appears, select a split mode that you want to add from <VIEW TYPE>.
6. If the selected split mode is CONFIGURE displayed on <VIEW >, select a channel you want to display in each split screen.
7. Click <CONFIRM>. The set sequence mode is confirmed and will be added to the Add Sequence list in order
8. When done, click <CLOSE> in the bottom of the screen.
   After the sequence type is saved, you will return to the previous screen.
9. Place your mouse cursor over a desired tile of added Sequence, right click on it or press the [ENTER] button of the remote control to edit or delete it.

To edit a sequence

1. Select a sequence that you want to edit in the list.
2. The “EDIT” dialog appears.
3. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to edit the selected sequence.
   - > SEQUENCE TITLE: enter a new sequence name.
   - > ACTIVATION: specify the use of the sequence.
   - > MODIFY: change the settings of the sequence mode.
   - > DELETE: delete the selected sequence list.
   - > CANCEL: cancel the changes.
4. Pressing the <MODIFY> button will display the Edit Sequence window.
5. To change the existing settings, select a screen mode that you want to edit and right-click to display the context menu. Then, select <MODIFY>.
6. When done, click <CLOSE> to close the window.
7. To apply your changes, click <AP

Spot out

Apart from the main screen display, you can configure the Spot Out to display a live channel as needed in various live view types. To set the live view type of display output through the [SPOT] terminal and activate/ deactivate it.

1. From <SYSTEM SETUP> - <DISPLAY>, select <SPOT OUT>.
2. Use [▲▼◀▶/ENTER] button of the remote control or mouse to edit Spot Out properties.
   - > SPOT TITLE: Name the Spot Out setup.
   - > ACTIVATION: Set whether to activate/deactivate the spot out setup.
   - > MODIFY: Edit the view type of the spot output.
   - > SAVE: Save the changes of spot output settings.
3. To apply your changes, click <APPLY> button.
4. Once completed with setup, press [EXIT] button of the remote control or click <CLOSE> button on the bottom ofthe screen. A confirmation dialog appears and returns to the previous me

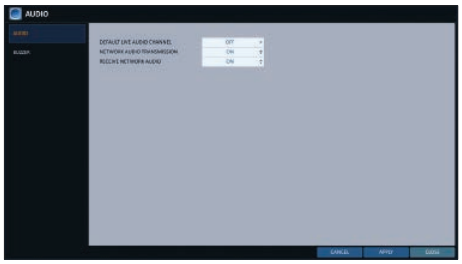
To add a View Type to a Spot Out

1. Select an item from the SPOT Output list to be changed.
2. The “MODIFY” window appears, click <MODIFY> button.
3. When the View Type selection window appears, click <ADD VIEW TYPE> button.
4. Select the desired View Type and configuration, and click <CONFIRM> button.
5. Complete adding and click <CLOSE> to close the edit window

To edit or delete View Type of the SPOT Output

1. Select an item from the SPOT Output list to be changed.
2. The “MODIFY” window appears, click <MODIFY> button.
3. When the View Type selection window appears, select the desired View Type to be edited or deleted, and press [ENTER] button of the remote control or right click on it.
   - > MODIFY: Displays “SPOT SETUP” window for editing View Type and other properties.
   - > DELETE: Deletes the selected View Type.
4. Complete editing and click <CLOSE> to close the edit window

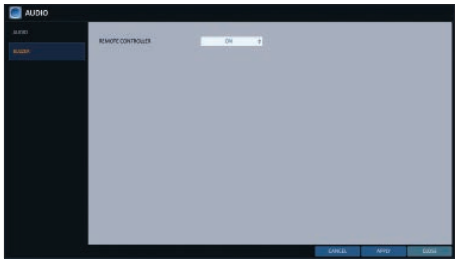
You can configure audio related settings (channel and network transfer) and signal beep for remote control operations



Audio

Choose whether to receive the live sound source and select an audio channel.

1. From <SYSTEM SETUP> - <AUDIO>, select <AUDIO>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to select an item that you want to edit.
   - > DEFAULT LIVE AUDIO CHANNEL: select an audio channel to monitor on the live screen.
   - > NETWORK AUDIO TRANSMISSION: decide if the DVR transfers the audio signal to the remote client. DVR ➞PC (Remote Client)
   - > RECEIVE NETWORK AUDIO: decide if DVR receives the audio signal from the remote client. PC (Remote Client) ➞DVR
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

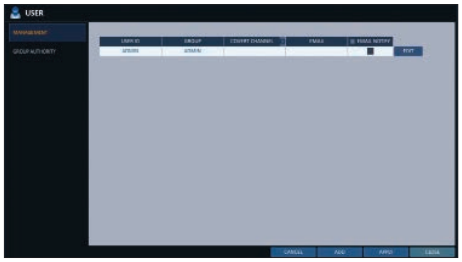


Buzzer Output

You can set to output the buzzer, if you use the remote control.

1. From <SYSTEM SETUP> - <AUDIO>, select <BUZZER>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to select an item that you want to edit.
   - > REMOTE CONTROLLER: specify the output of the beep when you press a button on the remote control.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

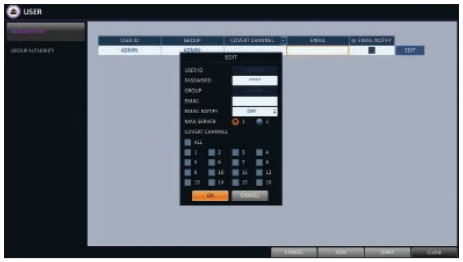
You can configure the user management settings and the user/group permissions.



Management

You can add a user account(s) that can be edited at a later time.

1. From <SYSTEM SETUP> - <USER>, select <MANAGEMENT>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to add a user account or select an item that you want to edit.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.



To add a user account

1. Click <ADD> in the bottom of the screen.
2. Use the [▲▼◀▶] buttons on the remote control and move to a desired item. Then, press [ENTER] to select the item.
   - > USER ID: enter the user ID using the virtual keyboard.
   - > PASSWORD: With the virtual keyboard, enter the password.
   - > EMAIL: Type in the e-mail address to which you will receive notification of an event if it occurs.
   - > EMAIL NOTIFY: Choose whether you will receive notification of an event if it occurs.
   - ☑ To use <EMAIL NOTIFY>, To configure the email server go to page 41 <EMAIL>
   - > COVERT CHANNEL: You can set the channel to be hidden from a specific user.
   - ☑ <COVERT CHANNEL> option hides the video of the selected channel from being displayed on the screen.
3. When done, click <OK>.
   The added user account will be listed.

To edit the user account information

You can add a user account(s) that can be edited at a later time.

1. From the list of users, select a user account to edit and click <EDIT> next to it.
2. From the Edit window, make necessary changes and click <OK>.
3. To delete the user account, click <DELETE>.

   The <ADMIN> account can not be changed or edited.

Group Authority

You can grant different user groups different permissions to a specific menu.

1. From <SYSTEM SETUP> - <USER>, select <GROUP AUTHORITY>.
2. Use the [▲▼◀▶/ENTER] buttons or use the mouse to set the permissions for both <MANAGER> and <USER> groups.
   - > SEARCH: Set the permissions for the Search menu.
   - > ARCHIVING: Set the permissions for the Backup menu.
   - > SYSTEM SETUP: Set the permissions for the System Setup menu.
   - > RECORD SETUP: Set the Access Permissions for the Record Setup menu.
   - > EVENT ACTION CONTROL: Set the permissions to output the alarm or control the buzzer if an event such as alarm occurs.
   - > LISTEN TO AUDIO: Set the permission to listen to the audio.
   - > REMOTE LOG IN: Set the permission to access the VXH960H remotely.
   - > SHUTDOWN: Set the permission to shut down the VXH960H from the System menu.

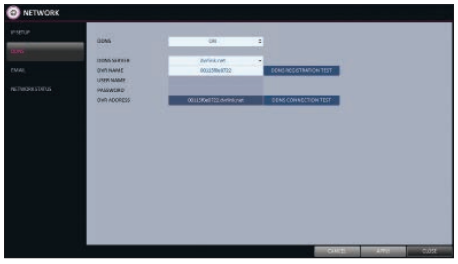
   ☑ The <ADMIN> account is the master account allowed for all permissions, which is not edited for individual permissions.
3. To apply the change, click <APPLY > in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu

You can set the IP address, DDNS, E-mail settings, and check network status.

IP Setup

Edit the IP address related properties and remote service port of the DVR.

1. From <SYSTEM SETUP> - <NETWORK>, select <IP SETUP>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to specify each item of the network settings.
   - > DHCP: If it is checked, the IP address will be allocated automatically.
   - ☑ For DHCP address allocation, the DVR should be connected to a network environment such as router that provides DHCP server service.
3. Deselect DHCP option to enable manual static address configuration.
   - > IP ADDRESS: Provide the IP address.
   - > GATEWAY: Provide the gateway address.
   - > SUBNET MASK: Provide the subnet mask address.
   - > 1ST DNS SERVER: Enter the address of the primary DNS server.
   - > 2ND DNS SERVER: Enter the address of the secondary DNS server.
   - > RTSP SERVICE PORT: Port number that the remote client receives the DVR video from.
   - > WEB SERVICE PORT: Port number used for connecting to the DVR with the web browser.
   - > PORT FORWARDING: If you are using a router, you can set the port forwarding so that external access to the DVR is allowed. If the router does not support the uPnP protocol, you must set the port forwarding manually. For more information, contact your network administrator.
   - > DELETE PORT: Release the port forwarding settings for the router.
   - > MAX TX SPEED: Limit the network transfer rate to access a remote client. The video signal may be transferred at a less rate than specified, which depends on the status of your network connection.
4. To apply the change, click <APPLY> in the bottom of the screen.
5. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.



DDNS

You can configure the DDNS settings so remote users who are connected to the network can access the VXH960H remotely

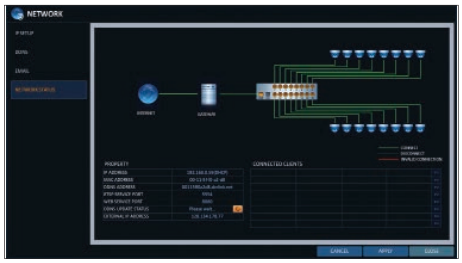
☑ DDNS is an IP redirection service in a dynamic IP environment that redirects the new IP address to a registered domain name each time the IP address is changed..

1. From <SYSTEM SETUP> - <NETWORK>, select <DDNS>
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to specify the use of DDNSand select a server.
   - > DDNS: Specify the use of DDNS connection.
   - > DDNS SERVER: Select a server to connect to.
   - > DVR NAME: Enter the name of the DVR that you want to use as DDNS.
   - > DDNS REGISTRATION TEST: Check if the <DVR NAME> can be set as DDNS. If there is a duplicate name in the server, the registration will fail. If this is the case, rename the <DVR NAME> and presstest to check if it works properly.
   - > DVR ADDRESS: Provide the <DVR NAME> and press the <DDNS REGISTRATION TEST> button. The name will be added automatically.
   - > DDNS CONNECTION TEST: Perform the connection test to check if DDNS is normally registered
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmationmessage appears and you will return to the previous menu.

Email

You can register and test an two email address so that an email notification is delivered at a specific interval or if an event occurs.

1. From <SYSTEM SETUP> - <NETWORK>, select <EMAIL>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to specify the use of email and select a server.
   - > SERVER: Set up the mail server.
     Set the mail server that will be used for notification for the VXH960.
     Use the virtual keyboard to enter your mail settings.
   - > PORT: Enter the mail server port.
   - > SECURITY: If it is set to <ON>, the email will be transferred to a server that does not support SSL.
   - > USER: Provide the email account (ID) of the sender
   - > PASSWORD: Provide the password of the sender.
   - > TEST EMAIL ADDRESS: Enter an email address for the test purpose.
   - > TEST: Send a test email and check if the test email is delivered normally.
3. To apply the change, click <APPLY > in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.



Network Status

From the network map screen, you can check the internet connection status and the details and camera connection status, and check also the details of the connection status for each camera.

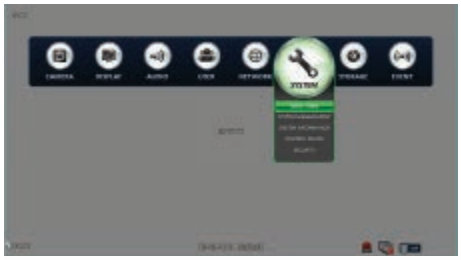
1. From <SYSTEM SETUP> - <NETWORK>, select <NETWORK STATUS>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to select <NETWORK STATUS>

Network Status

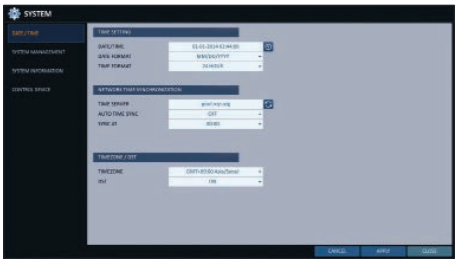
- IP ADDRESS: Indicates the internal IP address of the VXH960.
- MAC ADDRESS: Indicates the internal MAC address of the VXH960.
- DDNS ADDRESS: Indicates the internal DDNS address of the VXH960.
- RTSP SERVICE PORT: Indicates the network port of the video service.
  For remote service, port forwarding must be correctly set to the router.
- WEB SERVICE PORT: Indicates the web service network port.
  For remote service, port forwarding must be correctly set on the router.
- DDNS UPDATE STATUS: Shows if the DDNS address was registered to the DDNS server normally. Press <> to try to register the DDNS address manually
- EXTERNAL IP ADDRESS: Indicate the IP address for the Internet, accessible externally to the local network.
  The DVR can be granted access ith the web browser at "http://<EXTERNAL IP ADDRESS>:<WEB SERVICE PORT>"
  The IP address can vary in a dynamic IP environment
- CONNECTED CLIENTS: Shows the list of remote users that are currently connected.
  Press < ■ > to terminate the connection of an unwanted client manually.

☑ Termination is limited to only users in a lower group than the current user

3. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.



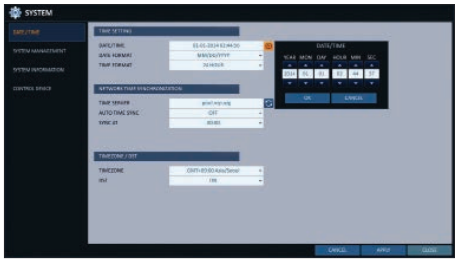
You can configure the settings of date/time, system management, control device and system security.

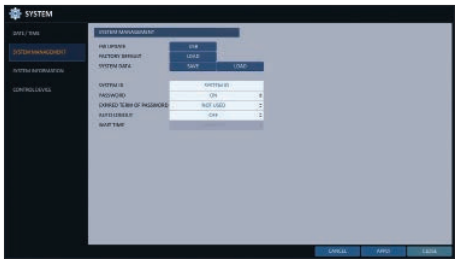


Date/Time

Specify the current date and time.

1. From <SYSTEM SETUP> - <SYSTEM>, select <DATE / TIME>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to change the time or set the options as necessary.
   - > DATE/TIME: Allows the operator to set or modify the current date and time.
     Click< > to adjust the time manually.
   - > DATE FORMAT: specify the date format.
   - > TIME FORMAT: specify the time format.
   - > TIME SERVER: obtain the current time from the time server. Click < > to get the current time.
   - > AUTO TIME SYNC: automatically synchronize the time with the time server at a specific time.
   - > SYNC AT: Set the time to sync with the time server.
   - > TIMEZONE: Specify the GMT standard time for your local area.
   - > DST: You can set up or release the DST (Daylight Saving Time).
     - ☑ Both <TIME SERVER> and <TIME SYNC> will been abled only if the DVR is connected to the Internet.
3. To apply the change, click <APPLY > at the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

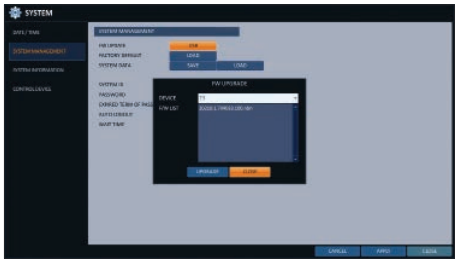




System Management

You can check, update or reset the system information.

1. From <SYSTEM SETUP> - <SYSTEM>, select <SYSTEM MANAGEMENT>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to set each option of the system management.



> FW UPDATE: you can update the current software with the latest version.

> FACTORY DEFAULT: Return the VXH960 settings to the factory default.

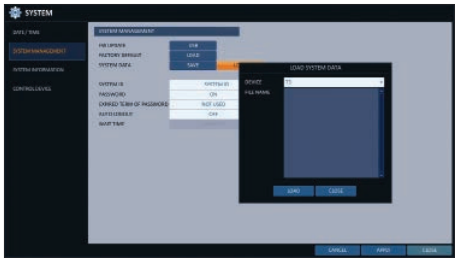
! If you proceed to upgrade the firmware or reset the VXH960 to the factory default, all current settings of the DVR will be erased. The settings of the DVR will have to be configured again.

> SYSTEM DATA: Save the system settings or get the system information from another device.

- SAVE: Store the DVR settings to a storage device. Connect the storage device to the USB port of the DVR
- LOAD: Apply the settings of the storage device to the DVR. Connect the storage device to the USBportofDVR.

> SYSTEM ID: Set the main unit's system ID.

> PASSWORD: Open or close the dialog box for setting the menu's: quit, system settings, record settings, archiving, and search.



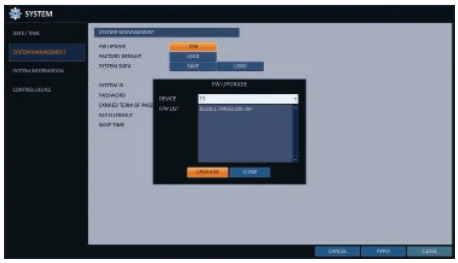
! If it is set to <Off>, note that the ADMIN account is only effective and access to all menus will be restricted.

> EXPIRED TERM OF PASSWORD: You will be prompted to change the current password after a certainperiodoftime.

> AUTO LOGOUT: If there is no user input for a certain period of time, you can set to log out automatically.

> WAIT TIME: Specify the waiting time for Auto Logout.

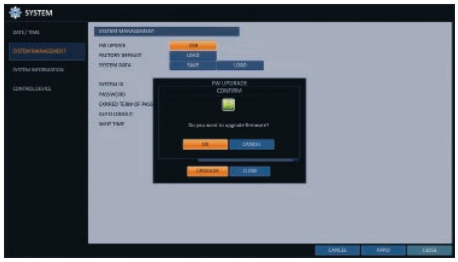
3. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen to return to theprevious menu.



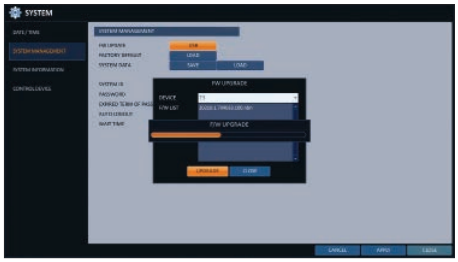
To perform the upgrade

You can check, update or reset the system information.

1. Connect the USB storage device that contains the updatable files.
2. Click <USB>.
3. Select one(s) from the updatable files LIST listed in <F/W >.

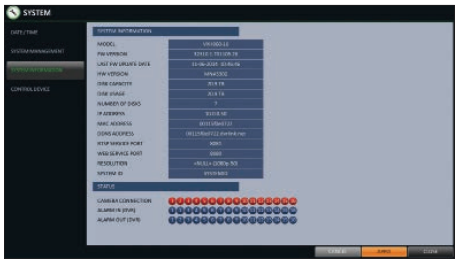


4. Click <UPGRADE>.
5. When the confirmation message appears, click <OK>.



6. The progress bar displays the progress of the firmware upgrade process.
7. When the upgrade is complete, reboot the system.

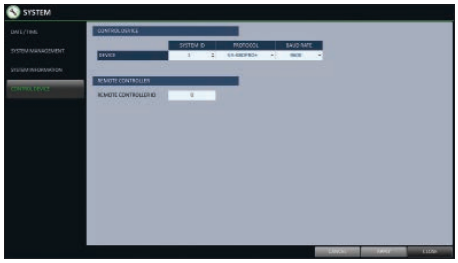
! If the DVR is turned off while the firmware upgrade is in progress, this can cause a serious damage to the DVR and it may not work correctly when turned on again.



System Information

You can check the current system version and system-related settings.

1. From <SYSTEM SETUP> - <SYSTEM>, select <SYSTEM INFORMATION>.
2. Check the status of the current system.
3. When done, press the [EXIT] button on the remote control or click <CLOSE>. The confirmation message appears and you will return to the previous menu.



Control Device

Configure the settings of the remote control and keyboard controller.

☑ This function is provided for controlling individual DVR separately to using a control device or remote control, in case the site has multiple DVRs of the same model.

1. From <SYSTEM SETUP> - <SYSTEM>, select <CONTROL DEVICE>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to set the connection options for the control device.
   - > SYSTEM ID: Set the ID of the VXH960 so that the keyboard controller can control the correct VXH960.
   - > PROTOCOL: Set up the protocol of the keyboard controller.
   - > BAUD RATE: Specify the RS485 communication speed.
   - > REMOTE CONTROLLER ID: Set the ID of the remote control.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu

You can configure the settings and view the information of the disk and external storage devices.

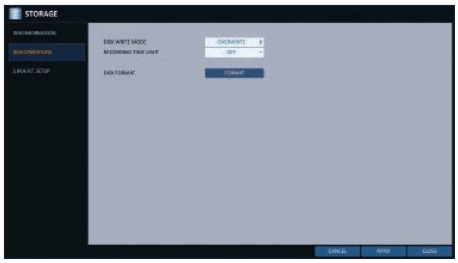
Disk Information

Show information about the connected HDDs.

1. From <SYSTEM SETUP> - <STORAGE>, select <DISK INFORMATION >.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to select either <INTERNAL DISKS> or <EXTERNAL STORAGE>.

   Please check the status for each connected device.

   > START / END TIME: show the start time and end time of data stored in each HDD.
   > STATUS: Check if the connected HDD is being used by the VXH960. If you encounter a problem with the HDD, the VXH960 will terminate the connection to the HDD and mark it as 'Not In Use'.
   > CAPACITY: Show the capacity of the HDD.
   > MODEL: Indicate the HDD model number
   > S.M.A.R.T STATUS: Read the S.M.A.R.T information of the HDD and check to display if the current HDD is in normal operation.
   - NORMAL: The HDD is in a normal state.
   - CHECK: The HDD has an error, contact your service provider. It is recommended that you replace the HDD immediately If you leave the problem unresolved, it may stop recording
   - ERROR: The HDD fails or is unable to be used due to an error of the HDD or the cable. The HDD should be replaced immediately.
   Contact your service provider immediately.
3. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen to return to the previous menu.



Disk Operations

You can set the disk's write mode, recording time limit and format the HDD.

1. From <SYSTEM SETUP> - <STORAGE>, select <DISK OPERATIONS>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to set the operation conditions of the disk.
   - > DISK WRITE MODE
     - If it is set to <OVERWRITE>, the existing data will be overwritten by the new recording data, once the HDD becomes full.
     - If the option is set to <ONCE> and the HDD isfull, the DVR will stop recording and output the beep or alarm that is pre-defined at <EVENT>.
   - > RECORDING TIME LIMIT: The recording data will be deleted after a maximum specific time. If it is set to <OFF>, this function will be disabled.
     - ☑ Record Time Limit: 1 day even if there is sufficient free space in the HDD, it records / keeps videos of the most recent 1 day only.
   - > DISK FORMAT: format the hard disk.

   ! Note that formatting the HDD will delete all video data and logs.
3. To apply the change, click <APPLY> at the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

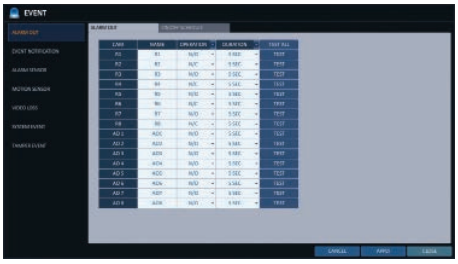
S.M.A.R.T settings

You can check the S.M.A.R.T information of the HDD and specify the check frequency.

☑ What is S.M.A.R.T information? S.M.A.R.T (Self-Monitoring, Analysis and Report Technology) is to detect a HDD that is likely to cause any problems in the future with a warning message.

1. From <SYSTEM SETUP> - <STORAGE>, select<S.M.A.R.T. SETUP>.
2. Use the [▲▼◀▶/ENTER] buttons on the remotecontrol or use the mouse to check the S.M.A.R.T operation and specify the check interval.
   - > S.M.A.R.T STATUS: Read the S.M.A.R.T information of the disk and check to display if the current disk is in normal operation. Click <DETAIL INFO> to view the details.
   - > NORMAL: The disk is in a normal state.
   - > CHECK: The disk has an error so that you need to check the disk or the sata cable of the disk. If you leave the problem unresolved, it may not record. It is recommended that you replace the disk immediately.
   - > ERROR: The disk fails or is unable to use due to an error of the disk or the cable. The disk and/or cable should be replaced immediately. Contact the retailer or the customer service to replace the disk.
   - > S.M.A.R.T CHECK INTERVAL: Specify the S.M.A.R.T check interval. Click <CHECK NOW> to start checking.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmationmessage appears and you will return to the previous menu.

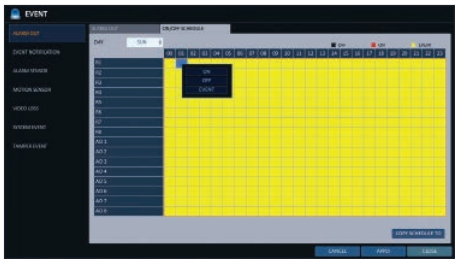
Define various events, and specify the conditions to notify the user in various ways.

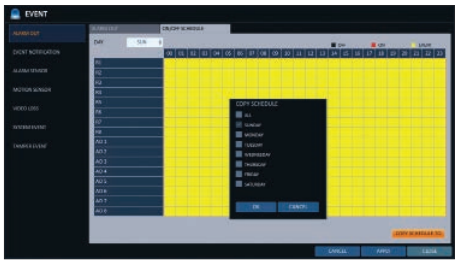


Alarm Out

Specify the alarm output conditions with the work schedule. (A supported camera may be required to obtain all alarm out functions)

1. From <SYSTEM SETUP> - <EVENT>, select <ALARM OUT>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to select <ALARM OUT> and configure the related settings.
   - > NAME: You can rename the alarm.
   - > OPERATION: Set the alarm output mode.
     - N/O (Normal Open): It normally stays Open. However, if an event occurs, it will switch to close.
     - N/C (Normal Close): It normally stays Close. However, if an event occurs, it will switch to Open.
   - > DURATION: Specify the duration of the alarm output.
     - TRANSPARENT: Keep the alarm out for as much time as the event lasts.
     - UNTIL KEY: Keep the alarm out until a mouse or remote control button is pressed.
     - 5 ~ 300 SEC: Keep the alarm out for as long as specified.
   - > TEST: Forcibly output the alarm for test purposes.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.





ON/OFF Schedule

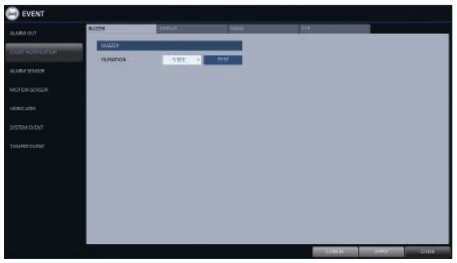
You can activate or turn off the alarm output as scheduled.

1. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to select a <DATE> for the schedule.
2. Drag the mouse to resize the cell or use the on the [▲▼◀▶] buttons to move to the cell, then press [ENTER].
3. Select a desired alarm output mode.
   - > ON: The alarm output is always turned on.
   - > OFF: The alarm output is always turned off.
   - > EVENT: Trigger the alarm output in sync with the event.
4. Click <COPY SHEDULE TO> to check the checkbox of the date that you want to copy the schedule at.
5. When done, click <OK> to apply the settings.
6. To apply the change, click <APPLY> in the bottom of the screen.
7. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return tothe previous menu.

Event Notification

Specify the methods of notification such as buzzer, video popup or email if an event occurs.

1. From <SYSTEM SETUP> - <EVENT>, select <EVENT NOTIFICATION >.
2. Use the [▲▼◀▶] buttons on the remote control or use the mouse to select one from <BUZZER>, <DISPLAY > and <EMAIL>.
3. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to set the output method and duration.
4. To apply the change, click <APPLY > at the bottom of the screen.
5. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.



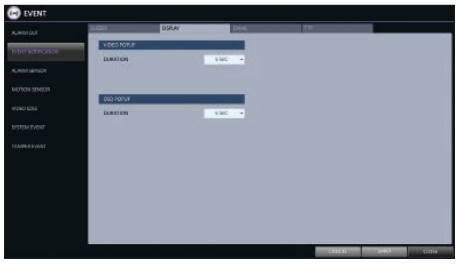
Buzzer output

You can notify the user of the event using the buzzer.

> DURATION

- TRANSPARENT: Keep the buzzer on for as much time as the event lasts.
- UNTIL KEY: Keep the buzzer on until a mouse or remote control button is pressed.
- 5 ~ 300 SEC: Keep the buzzer on for as long as specified.

> TEST: Forcibly output the alarm for test purposes



Display

If an event occurs, you can display the video screen or a popup message to notify the user of the event.

> VIDEO POPUP: Display the video channel that is synchronized with the event on a single split screen.
Set the DURATION of the single split screen.

- UNTIL KEY: Keep the video popup displayed until a mouse or remote control button is pressed.
- 5 ~ 300 SEC: Keep the video popup displayed for as long as specified.

☑ If multiple events occur at the same time, or if multiple event related video channels exist, the video popup will be displayed in the maximum split screen mode rather than the single split screen mode.

> OSD POPUP: This will notify the user of the event with a popup message if an OSD popup event occurs.
You can adjust the duration of the popup message.

- UNTIL KEY: Keep the OSD popup displayed until a mouse or remote control button is pressed.
-5 ~ 300 SEC: Keep the OSD popup displayed for as long as specified.

Email

If an event occurs, this will notify registered users of the event by email. If you do not want to receive the email, uncheck the <EMAIL NOTIFY> option in <MANAGEMENT>. (Page 37)

- ADD NEW EMAIL: If you want to add a new mail recipient beside the existing ones, click <EDIT> to add the recipient.
- MINIMUM EMAIL FREQUENCY: Adjust the minimum frequency of sending the email.

  For example, even if you have set the minimum frequency to one minute and another event occurs in less than one minute after the last email sending, the email for the new event will be sent one minute after.

☑ Some email servers can block the email sending if the email delivery cycle is too short, and classify it as spam.
Contact your email service provider to adjust the minimum delivery cycle so that the server does not classify the email as spam.

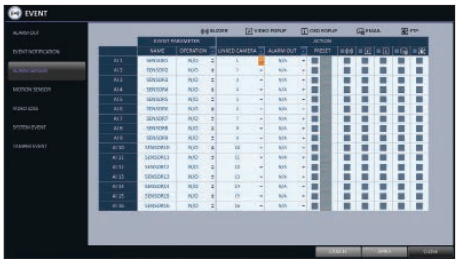
- INCLUDE SNAPSHOT IMAGE: Set whether to include snapshot image of the event with the email notification.

FTP

Upon events, upload the event notification onto a FTP server.

- FTP SERVER: Enter the FTP server address for event transfer.
- DIRECTORY: Select or manually enter the destination folder of the FTP for event transfer.
- FILE NAME: Select the uploading event file's format or manually set the file name.
- MINIMUM FREQUENCY: Sets the minimum recurrence delay for uploading event notification onto the FTP server.

  For example, when the minimum recurrence is set to 1 minute, the next FTP event notification will be uploaded after 1 minute from the last event, even if another event is detected within 1 minute from the last one.
- INCLUDE WEBRA LINK: Select whether to include WEBRA link address of the DVR, which can be accessed with web browser (Internet Explorer).
- INCLUDE SNAPSHOT IMAGE: Set whether to include snapshot (still image) or not with the email.



Alarm Sensor

You can configure the settings of the alarm sensor and specify the operation of the sensor if an event occurs.

1. From <SYSTEM SETUP > <EVENT>, select <ALARM SENSOR >
2. Use the [▲▼◀▶] buttons on the remote control or use the mouse to specify the sensor input method and operation.
   - > NAME: You can specify the name of the alarm sensor.
   - > OPERATION: You can specify the type of the alarm sensor.
     - N/O (Normal Open): Normally the sensor is left Open. If the sensor switches to Close, an event will be triggered.
     - N/C (Normal Close): Normally the sensor is left Close. If the sensor switches to Open, an event will be triggered.
   - > LINKED CAMERA: Set the camera to sync with the alarm sensor if it is triggered.
     If you have set the alarm recording and the sensor detects the recording, all synchronized cameras will start alarm recording.
   - > ALARM OUTPUT: Specify the alarm output channel if it is detected by the alarm sensor. The alarm will be output to the specified channel.
   - > Specify the output of the buzzer if an alarm is detected by the alarm sensor
   - > Select to display the video popup if an alarm is detected by the alarm sensor. If there exist multiple <LINKED CAMERA>, the video popup will be displayed in the maximum split mode
   - > Select to display the OSD popup message if it is detected by the alarm sensor.
   - > Select to send an email if detected by the alarm sensor.
   - > Select to send a notification to an FTP site if detected by the alarm sensor.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmationmessage appears and you will return to the previous menu.

Motion Sensor

You can set an action to execute when a motion is detected. For the settings of the motion sensor, move to <CAMERA SETUP>.

1. From <SYSTEM SETUP> - <EVENT>, select <MOTION SENSOR>.
2. Use the [▲▼◀▶ buttons on the remote control or use the mouse to specify the ignorance interval and operation.
   - > IGNORING INTERVAL: Specify the minimum interval of the motion event occurrence.
     For example, even if you have set the minimum frequency to 5 seconds and another motion event occurs in less than 5 seconds after the last motion event occurred, the new event will be ignored. If too many motion events occur, adjust to shorten the interval.

☑ Motion recording will be triggered immediately after the motion occurred regardless of the above settings.

- > ALARM OUTPUT: Specify the alarm output channel if a motion is detected by the motion sensor.
- > Specify the output of the buzzer if a motion is detected by the motion sensor.
- > Select to display the video popup if a motion is detected by the motion sensor.
- > Select to send an email if a motion is detected by the motion sensor
- > Select to send a notification to an FTP site if motion is detected by the motion sensor.

3. To apply the change, click <APPLY> at the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

Video Loss

You can specify a reaction to the case where no video is received from the camera.

1. From <SYSTEM SETUP> - <EVENT>, select <VIDEO LOSS>.
2. Use the [▲▼◀▶] buttons on the remote control or use the mouse to specify the reaction to a video loss.
   - > ALARM OUTPUT: Specify the alarm output channel if a video loss occurs.
   - > PRESET: Specify a preset position for a PTZ camera
   - > Specify the output of the buzzer if a video loss occurs.
   - > Select to send an email if a video loss occurs.
   - > Select to send a notification to an FTP site if video loss occurs.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

System Event

You can set any action to an event related to the disk, recording, network or system. Like the other events, you may notify the event to the user using the alarm/buzzer output,OSD pop-up or email.

1. From <SYSTEM SETUP> - <EVENT>, select <SYSTEM EVENT>.
2. Use the [▲▼◀▶] buttons on the remote control or use the mouse to specify the reaction to each event.
3. To apply the change, click <APPLY > in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

Disk

> OVERWRITE START EVENT: if you set the disk write mode to <OVERWRITE>, this event occurs when the disk is full and the overwriting begins accordingly.

> DISK FULL EVENT: if you set the disk write mode to <ONCE>, this event occurs when the disk is full (100%).

> DISK SPACE EXHAUSTED EVENT: Event that is triggered if the disk is almost full.

Click to specify the threshold percentage of usage to trigger the event.

> S.M.A.R.T EVENT: Occurs if the disk causes the S.M.A.R.T error.

> NO DISK EVENT: Occurs if no disk is recognized after the booting due to a disk failure or cable problem.

! To detect the disk error, it is recommended not to change the settings of the S.M.A.R.T event, no disk event and buzzer output

Record

> PANIC RECORD START EVENT: Specify the action to perform when the panic recording begins.

System

> BOOTING EVENT: This event occurs when the DVR is booting.

> LOGIN FAIL EVENT: This event occurs when a user enters the incorrect password.
You can specify the times of clicking < > to trigger the event.

> FAN FAIL EVENT: This event occurs if the CPU cooling fan or unit's cooling fan does not work at all.

! If the fan fails, recording will stop. Please contact your service provider.

! To monitor the normal operation of the DVR, it is recommended not to change the buzzer output settings of the fan failure event.

Network

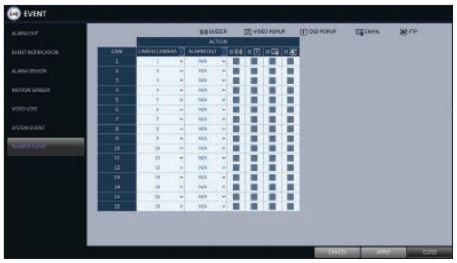
> TROUBLE IN INTERNET CONNECTION: Occurs if the Internet connection to the VXH960 fails. If you do not want to connect the VXH960 to the network, leave the <ACTION> item blank.

> FAIL IN REMOTE LOGIN: This event occurs if a remote client fails to log in due to an invalid ID or password.
You can specify the times of clicking < > to trigger the event.

> FAIL IN DDNS UPDATE: This event occurs if the DVR tried to update the DDNS address but failed

☑ If the DDNS address fails to be updated, the DVR may not connect to a remote client.If this is thecase,enter theIP address from the client side to allow access from the DVR. This is just a temporary measure. For the IP address, move to and check <EXTERNAL IP ADDRESS> from the <NETWORK> window. Note that the <EXTERNAL IP ADDRESS> is subject to change if the DVR does not use a static IP.

! Note that the <EXTERNAL IP ADDRESS> can change at any time in a dynamic IP environment.



TAMPER EVENT

You can set how to react upon a detected tampering event.Set the tampering event detection in<TAMPER DETECTION> for each channel.

1. From <SYSTEM SETUP> - <EVENT>, select<TAMPER EVENT>.
2. Use [▲▼◀▶] buttons on the remote or the mouse to set the detection action.
   - LINKED CAMERA: Select the camera to output the event action upon a tampering detection.
   - ALARM OUT: Set the alarm out channel for detected tampering event.
   - Sets whether to sound beeper upon a tampering detection.
   - Sets whether to display a video pop-up up on a tampering detection
   - Sets whether to send an email notification upon a tampering detection.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmationmessage appears and you will return to the previous menu.

Record Settings

RECORDING

Using the mouse

Using the remote control

Operation Mode

You can set the recording options for Auto or Manual mode.

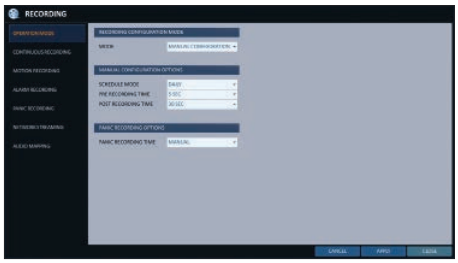
1. From <RECORD SETUP> menu, select <OPERATION MODE>.
2. Use the [▲▼◀▶] buttons or use the mouse to set <RECORDING CONFIGURATION MODE> to <AUTO CONFIGURATION> or <MANUAL CONFIGURATION >.
3. Set the recording options for each selected Record mode.
4. To apply the change, click <APPLY> at the bottom of the screen.
5. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

Auto Configuration

If you choose your preferred record mode, the VXH960 will recommend you the optimized settings for the selected record mode.

- ALWAYS HIGH VIDEO QUALITY: Recording will proceed in the best quality regardless of the event at all times.
  As this option will always make recording in the best quality, the recording period is the shortest compared to the other record modes.
- MOTION RECORD: Recording will proceed only if a motion is detected.
- ALARM RECORD: Recording will proceed only if an alarm event occurs.
- MOTION/ALARM RECORD: Recording will proceed only if motion is detected or an alarm event occurs.
- INTENSIVE MOTION RECORD: Normally recording will be performed in a normal quality.
  However, the quality will switch to high if motion is detected.
- INTENSIVE ALARM RECORD: Normally recording will be performed in normal quality. However, the quality will switch to high if an alarm event occurs.
- INTENSIVE MOTION/ALARM RECORD: Normally recording will be performed in normal quality. However, the quality will switch to high if an alarm event occurs or motion is detected.

☑ Motion: Normally, it means the movement of an object. However, it implies a change to the illumination in the context of the DVR.
Ex) Vehicle lights (headlights), illumination change, etc.



Manual Configuration

If you set the record mode to <MANUAL CONFIGURATION>, the manual configuration window will appear where youcan set the manual recording and panic recording options.

> MANUAL CONFIGURATION OPTIONS: You can configure the recording settings by the time, date, and channel.
  - SCHEDULE MODE: Set the recording schedule for a day (daily) or for a week (weekly).
  - PRE RECORDING TIME: Set the pre-recording time.
  - POST RECORDING TIME: Set the post recording time.

> PANIC RECORDING OPTIONS: Set the panic recording duration. If it is set to <MANUAL CONFIGURATION>, recording will continue until you turn it off manually.

Continuous Recording

You can configure the settings of: continuous recording time, recording size, frame rate per second and quality.

1. From the <RECORD SETUP> menu, select <CONTINUOUS RECORDING>.

   ☑ From <OPERATION MODE>, you must set <RECORDING CONFIGURATION MODE> to <MANUAL CONFIGURATION> before you can set the <CONTINUOUS RECORDING>.

2. Use the [▲▼◀▶] buttons on the remote control or use the mouse to select either <SIZE/FPS/QUALITY> or <SCHEDULE>.

Size/FPS/Quality Setting

1. Please select the day of the week to perform the continuous recording. From <OPERATION MODE>, you must set the <SCHEDULE MODE> of the <MANUAL CONFIGURATION OPTIONS> to <WEEKLY> before you can specify the <DAY>.
2. Click a time cell from which you want to edit the SIZE/FPS/Quality and drag it to a desired cell.
   Or use the [▲▼◀▶] buttons on the remote control to move to the cell and press [ENTER]. Then, use the [▲▼◀▶] buttons to move to a desired cell and press [ENTER] again.

Size/FPS/Quality Setting continued

3. When the cell selection is complete, the “SIZE/FPS/QUALITY” table appears.

[!] Specify the <RESOLUTION>, <FPS>, <QUALITY> and use of the <AUDIO> recording for each channel.

> RESOLUTION: set the size of the video recording.

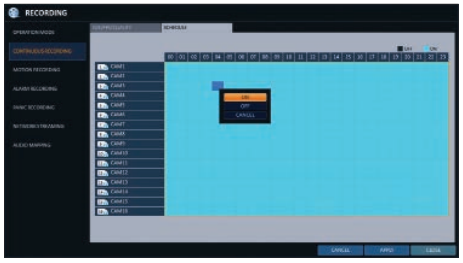
> FPS: set the frame rate per second.

> QUALITY: set the recording quality.

AUDIO: specify the use of the audio recording.

4. When done, click <OK>.You can check the recording size in the size table underthetimeselectionbar.

[!] The video resolution and the FPS option may differ depending on the specification of the camera.



Schedule Setting

1. Select a start day of the week on the schedule.
2. Click a time cell from which you want start to make the schedule and drag it to the finsih time cell. Or use the [▲▼◀▶] buttons on the remote control to move to the cell and press [ENTER]. Then, use the[▲▼◀▶] buttons to move to a desired cell and press [ENTER] again.
3. When the time selection is complete, you will be prompted to specify the use of recording in the Record Setup window.
4. To apply the change, click <APPLY> in the bottom of the screen.
5. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

Motion Recording

Specify the recording size of the motion event if it occurs and make schedule for that recording

1. From the <RECORDING> menu, select <MOTION RECORDING>.
2. Use the [▲▼◀▶] buttons on the remote control or use the mouse to select either <SIZE/FPS/QUALITY> or <SCHEDULE>.
3. Set each item of <RESOLUTION>, <FPS>, <QUALITY> and use of the <AUDIO> for the motion recording

☑ For more information, see the “Continuous Recording”. (page 61)

4. To apply the change, click <APPLY> in the bottom ofthe screen.
5. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

Alarm Recording

Specify the recording size of the alarm event if it occurs and make schedule for that recording.

1. From the <RECORDING> menu, select <ALARM RECORDING>
2. Use the [▲▼◀▶] buttons on the remote control or use the mouse to select either <SIZE/FPS/QUALITY> or <SCHEDULE>.
3. Set each item of <RESOLUTION>, <FPS>, <QUALITY>and use of the <AUDIO> for the alarm recording

☑ For more information, see the “Continuous Recording”. (page 61)

4. To apply the change, click <APPLY> in the bottom ofthe screen.
5. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmationmessage appears and you will return to the previous menu.

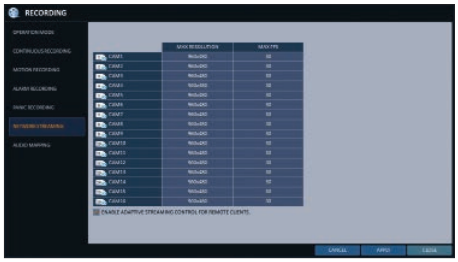
Panic Recording

In panic recording mode, you can specify the recording size and quality of the video.

1. From the <RECORDING> menu, select <PANIC RECORDING>.
2. Set each item of <RESOLUTION>, <FPS>, <QUALITY>and use of the <AUDIO> for the panic recording

☑ For more information, see the “Continuous Recording”. (page 61)

3. To apply the change, click <APPLY> in the bottom ofthe screen.
4. When done, press the [EXIT] button on the remotecontrol or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.



Network Streaming

You can specify the maximum size of network streaming for remote users and set the FPS.

☑ Even if you set the resolution and FPS to high for the network streaming, the DVR will reduce the size or FPS according to the network status (speed) before transferring the recording video.

1. From the <RECORDING> menu, select <NETWORK STREAMING>.
2. Use the [▲▼◀▶/ENTER] buttons on the remote control or use the mouse to select an item that you want to edit.
3. Set the <MAX RESOLUTION> and <MAX FPS> for each channel.
4. When done, click <OK>.
5. To apply the change, click <APPLY> in the bottom of the screen.
6. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

AUDIO MAPPING

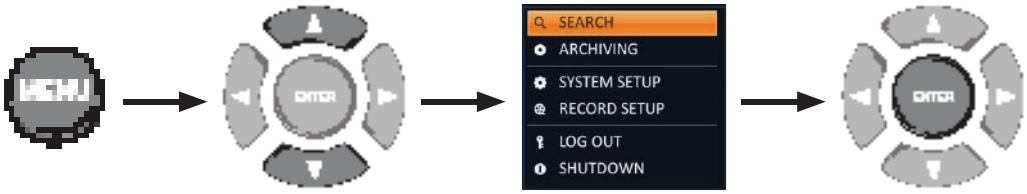
1. From the <RECORDING> menu, select <AUDIO MAPPING>
2. Set the <AUDIO IN> of the AUDIO MAPPING.
3. To apply the change, click <APPLY> in the bottom ofthe screen.
4. When done, press the [EXIT] button on the remotecontrol or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

Search

To move to the Search menu while in monitoring mode

Using the mouse

Using the remote control

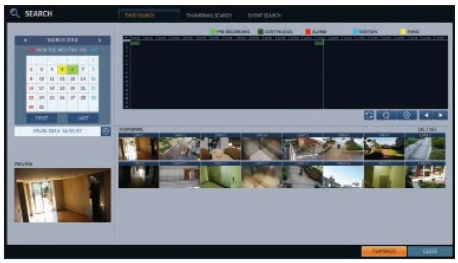


Using the remote control 2

To move to the Search menu while in playback mode

How to use the mouse

How to use the remote control



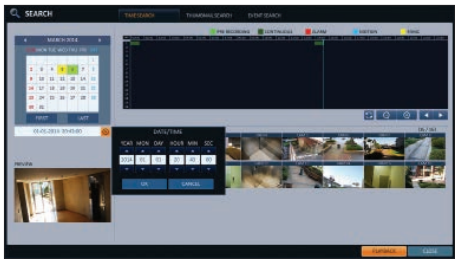
Time Search

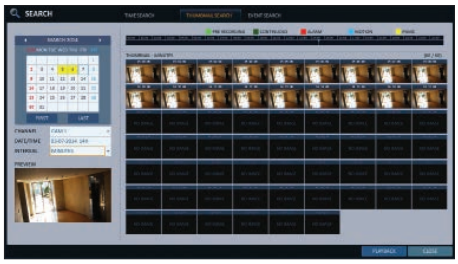
With the calendar, you can search for the recording data by the recorded date.

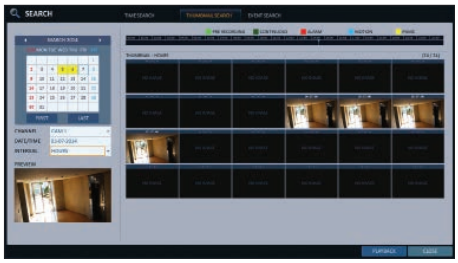
1. From the <SEARCH> menu, select <TIME SEARCH>.
2. Use the [▲▼◀▶] buttons on the remote control or use the mouse to specify the search date and time from the calender on the left corner of the screen.
   - > FIRST: The first date of recording is automatically selected.
   - > LAST: The last date of recording is automatically selected.
   - > Press to display the time selection menu where you can specify the time and date.
3. You can identify the type of recording data in the colour bar:
   - > Yellow green (Pre recording): The pre-recording is performed on the recording data after you set the <PRE RECORDING TIME> from <OPERATION MODE>.
   - > Green (Continuous): The continuous recording is performed on the recording data.
   - > Red (Alarm): The alarm event recording is performed on the recording data.
   - > Blue (Motion): The motion event recording is performed on the recording data.
   - > Yellow (Panic): The panic manual recording is performed on the recording data.
4. Click to move to a desired start time in the time bar or use the buttons at the botom of the satus bar to search
   - > Recall the recording data.
   - > Expand the timeline of the time bar to a greater unit of time
   - > Collapse the timeline of the time bar to a smaller unit of time.
   - > Use this to move to a previous time that is hidden in the timebar as it is expandedt o a greater time unit
   - > Use this to move to a next time that is hidden in the time bar as it is expanded to a greater time unit.
5. Click a thumbnail channel or use the [▲▼◀▶] buttons on the remote control to move to a desired channel and press [ENTER]. You can check the video in <PREVIEW>.

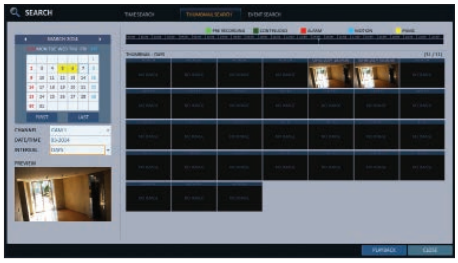
[!] Click to move to a desired time, or simply double-click a desired time in the time bar to play the video data on that time.

6. Press the [ENTER] button again on the remote control with the mouse, or simply double-click on the channel.You will move to the playback screen.
7. If you want to stop playing and return to the search screen, press [EXIT] or [SEARCH] on the remote control. You can also click <MENU> in the lower left corner and select a desired menu.









Thumbnail Search

To improve your search, you will be provided with a list of thumbnails. Select Day,Hour or Minute to narrow down the search results.

1. From the <SEARCH> menu, select <THUMBNAILSEARCH>.
2. Use the [▲▼◀▶] buttons on the remote control or use the mouse to specify the search date and time from the calender on the left corner of the thumbnail search screen.
   - > FIRST: The first date of recording is automatically selected.
   - > LAST: The last date of recording is automatically selected.
   - > CHANNEL: Select a channel to search for.
   - > DATE/TIME: Specify the search date and time.

   ☑ The menus available differ depending on the selected interval mode.
   - > INTERVAL: Select a time interval of the thumbnail view.
3. Double-click a desired play time in the recording data bar, or double-click a desired time image from the thumbnail list. You will move to the playback screen.
4. If you want to stop playing and return to the search screen, press [EXIT] or [SEARCH] on the remote control. You can also click <MENU> in the lower left corner and select a desired menu.

Event Search

Search for events that occurred at the specified time and select an event to play from the list.

1. From the <SEARCH> menu, select <EVENT SEARCH>.
2. Use the [▲▼◀▶] buttons on the remote control or use the mouse to specify the <START> and <END> times in the left of the event search list.
3. Select a channel to search.
4. Mark the checkbox of the event to search from the <EVENT> list.
5. Press the <SEARCH> button.The search results will be listed as shown.
   - > TYPE: displays the event type.
   - > TIME: displays the recording start time.
   - > CONTENTS: shows the details of the event found.
   - > ORDER BY: If you select <OLDEST>, the list will be sorted with the earliest one on top.
6. Double-click a desired event or click <PLAY> in the lower right corner to move to the play screen.
7. If you want to stop playing and return to the search screen, press [EXIT] or [SEARCH] on the remote control. You can also click <MENU> in the lower left corner and select a desired menu.

1. To play the searched data
   You can search for and play the recorded data.
2. To play with the live viewer
   Simply double-click a desired time point in the right corner of the play screen.

☑ If you move the cursor to the right most, the “Timeline” bar will be displayed.
Select a desired channel on the live screen and right-click to select <PLAYBACK> in the context menu. Then, select a desired play time.

Playback screen configuration

Video Window
Displays the current video

Timeline
Displays the type of recording data.
The horizontal bar in the timeline indicates the current point of playback. Double-click a desired point in the timeline to start playing the video from that point. If you drag to specify an area, you can perform a backup or event search of that area.

Menu/split-screen selection menu
For more information about how to use each button, refer to “Using the status bar in the live mode”. (page 17)

Play Bar
You can start playing, stop playing or change the play speed of the current video.

Playback channel selection menu

ITEM	Description
CAM1	Display the title of the selected channel.
ZOOM	Zoom the video of the selected channel. (The zooming function is active only in single camara screen view.)
START BOOKMARKING	The “BOOKMARK SETUP” popup appears, and you can bookmark a play point for the backup purpose.
SNAPSHOT	Capture the current live video and save it in the .jpeg format.

ITEM		Description
Jump		Move forward or backward.
Reverse Fast Play		The video will be reversely played at the speed of x2 x4 x8 x16 x32 x64 in this order.
Reverse Play		Play the video in the reverse direction.
Pause		Stop playing forward or playback temporarily.
Play		Play the video forward.
Fast Forward		The video will be played forward at the speed of x2 x4 x8 x16 x32 x64 in this order.
Zoom		Move to the zoom in/out screen of the selected channel.
Snapshot		Capture the current live video and save it in the .jpeg format. Then, you can save the captured video in the HDD or export it to an external USB memory device. While you perform the snapshot, the current video will stop playing.
Start/end bookmark		Add a bookmark for the current playback screen. Press this to display the “BOOKMARK SETUP” window. Provide each entry and click Start. The arrow in the bookmark button blinks to indicates that the bookmarking is in process. If you press the Bookmark button again, the bookmarking stops and the current settings will be reserved. Then, the reserved data can be backed up in Archive menu or can be played in the “RESERVED DATA MANAGEMENT” menu.

Bookmarking

During playback, you can add a bookmark for reserving the video data. You can view the bookmarked data in the Archive menu, which can be saved to a connected device for the backup purpose.

1. Provide a tag in the <TAG> item for data reservation.
2. Provide the details of the reserved data in the <MEMO> input box.
3. Click <START>.
   You will return to the play screen with the backup progress.
4. To stop the bookmarking, click <BOOKMARK ( )>.
5. To quit the bookmarking, click <STOP>.
   To continue with bookmarking, just click <CONTINUE>.
6. Click <RESERVE>.
   You can export the reserved data to a connected storage device using the <ARCHIVE> menu.

☑ What is the <RESERVE> function?

With the <RESERVE> function, you can reserve data even in overwrite mode. This is useful if you want to backup data but you have no backup device available such as USB memory.

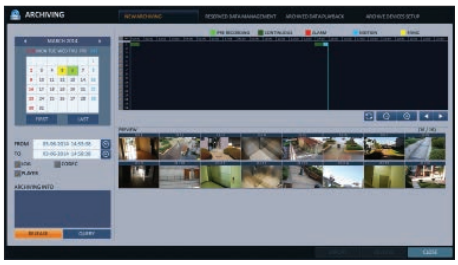
If you use “Reserve”, the recording days will be compromised. When you have backed up the reserved data to an external device, it is recommended to delete the internal reserved data.

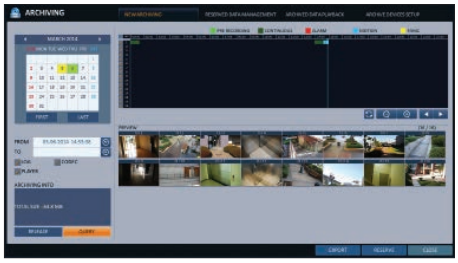
Using the Archive menu during playback

1. During the playback, click <NEW ARCHIVE( )>.
2. The “ARCHIVING SETUP” window appears where you can reserve the data.
3. Click <MENU( )> in the lower left corner and select the <ARCHIVE> menu.
4. Press the [ARCHIVE] button on the remote control.

Using the Archive menu during monitoring

1. Click <MENU( )> in the lower left corner and select the <ARCHIVE> menu.
2. Press the [ARCHIVE] button on the remote control.

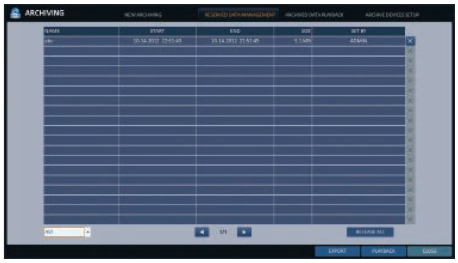




Archive

You can archive the searched data or reserve it.

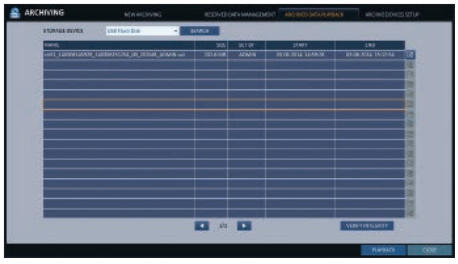
1. From the <ARCHIVE> menu, select <NEWARCHIVING>.
2. Select a date for the archive from the calendar in the left
   - ☑ The date containing recording data will be marked in a coloured box.
     - FIRST: The first date of recording is automatically selected.
     - LAST: The last date of recording is automatically selected.
3. Check the <START> and <END> times
   - ☑ Drag the timeline to specify the start and end time.
4. Mark the <LOG> and <CODEC> checkboxes and select to include the archiving.
5. Click <QUERY>. The results will be listed in <ARCHIVING INFO>
   - ☑ The maximum backup capacity for one time is 20GB
   - ☑ If the archiving request exceeds 20GB, the end time will be adjusted to within 20GB.
6. If you want to import to a storage device, connect it to the DVR and click <EXPORT>.
7. If you just want to reserve the data, click <RESERVE>. If the <TAG NAME> dialog appears, enter the name and click <OK>. Click <RESERVE> to save it to the HDD
   - ☑ Using <RESERVE> will compromise the recording days available. When you have archived the reserved data to anexternal device, it is recommended to delete the internal reserved data.
8. To exit the Archive menu, click <CLOSE>.



Reserved data management

You can search for the reserved data and delete or import it to a storage device.

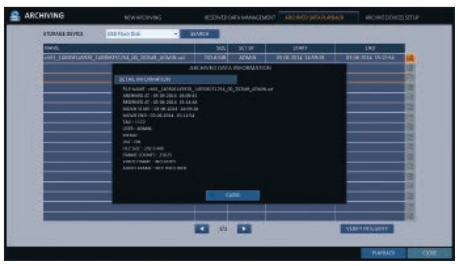
1. From the <ARCHIVE> menu, select <RESERVED DATA MANAGEMENT>. The reserved data will be listed.
2. Select a data type from <AVI > and <SNAPSHOT>. (*Bottom left of screen*)
   - > AVI: Searches AVI video files stored in the DVR
   - > SNAPSHOT: Searches captured snapshots stored in the DVR.
   - ☑ If selecting<Snapshot Capture>, the <Play> button will be disabled.
3. If you want to play the data, double-click a desired data item or click it and select <PLAYBACK >.
4. If you want to export it to a storage device, connect it to the DVR and click <EXPORT>.
5. If you want to delete the reserved data, click < ✕ > next to the list. Click <RELEASE ALL> to delete all the reserved data at once.
6. To exit the Archive menu, click <CLOSE>.



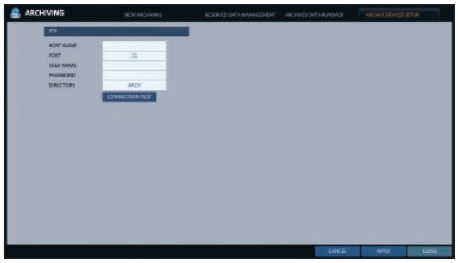
Playing the archived data

You can search the storage device for the archived data and check the details or play it.

1. Connect the storage device containing the archived data.
2. When the storage device is recognized, click <SEARCH>.



3. To view the details, click < ▤ > next to the list.
   - ☑ Click <VERIFY INTEGRITY> to check if the data is complete or incomplete.
4. Select an item to play from the list and click <PLAYBACK>.
5. To exit the Archive menu, click <CLOSE>.



Archive Devices Setup

Provide the FTP server information for archiving data in the HDD before testing the transfer.

1. From the <ARCHIVING> menu, select <ARCHIVE DEVICES SETUP>.
2. Move to the FTP information box.
3. Fill in each item using a virtual keyboard.
   - > HOST NAME: enter the address at which you can access the server.
   - > PORT: enter the port number to which you can access the server.
   - > USER NAME: enter the user ID with which you can access the server.
   - > PASSWORD: enter the connection password.
   - > DIRECTORY: specify the archiving path.
4. When all information is filled, click <CONNECTION TEST> to check the connection status.
5. To apply the change, click <APPLY> in the bottom of the screen.
6. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

Web RA is a user-friendly software application that enables you to control the video data in connection with a remote DVR.

System Requirements

The following is the minimum hardware and operating system requirements to run Web RA.

ITEM	Description
Operating System	Windows XP Professional , Windows Vista Home Basic / Premium, Window 7
Web browsers:	Internet Explorer 7.0 or later/Mozilla Firefox 3.6/Google Chrome 4.1/Opera 10 Some web browsers other than Internet Explorer may not fully function.
CPU	Intel Pentium 4 / 2.0 GHz
Memory	512 MB
Display	16-bit 1024 x 768 High Color
Hard Disk Drive	50MB (space required for installing the web viewer)
	* Additional HDD space is required for saving your recordings. The file size of your recording may differ depending on the specified quality.

Connection

Open a browser and enter the IP address of DVR, or type the URL in the address bar.

To connect to the VXH960 from inside

> Check the “Network Status” and verify the <IP ADDRESS> and <WEB SERVICE PORT> of the DVR (page 42)

> Enter the IP address and web service port in the address bar of the browser. Ex) http://192.168.1.200:8080

To connect to the VXH960 from outside

Using the IP address

> Check the “Network Status” and verify the <EXTERNAL IP ADDRESS> and <WEB SERVICE PORT> of the DVR. (page 42)

> If using a fixed (external) IP, enter the external IP that is specified in the DVR in the address bar of the web browser. Ex) “http://222.112.4.48:8080”

Using the URL

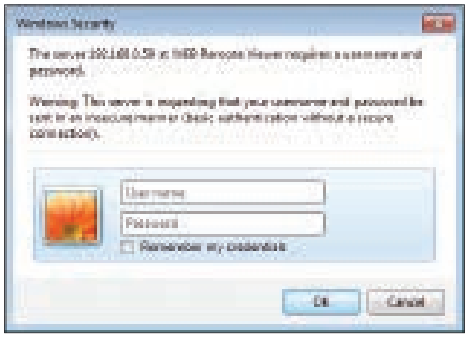
> Check the “Network Status” and verify the <DDNS ADDRESS> and <WEB SERVICE PORT> of the DVR. (page 42)

> Enter the DDNS address and web service port in the address bar of the browser. Ex) http://00115f123456.dvrlink.net:8080

☑ In the router network, you have to set the “Port Forwarding” and “DMZ Setting” to allow access from outside.

☑ For the necessary settings of the router, refer to the user manual of the router or contact the manufacturer of the router

What is the web viewer?

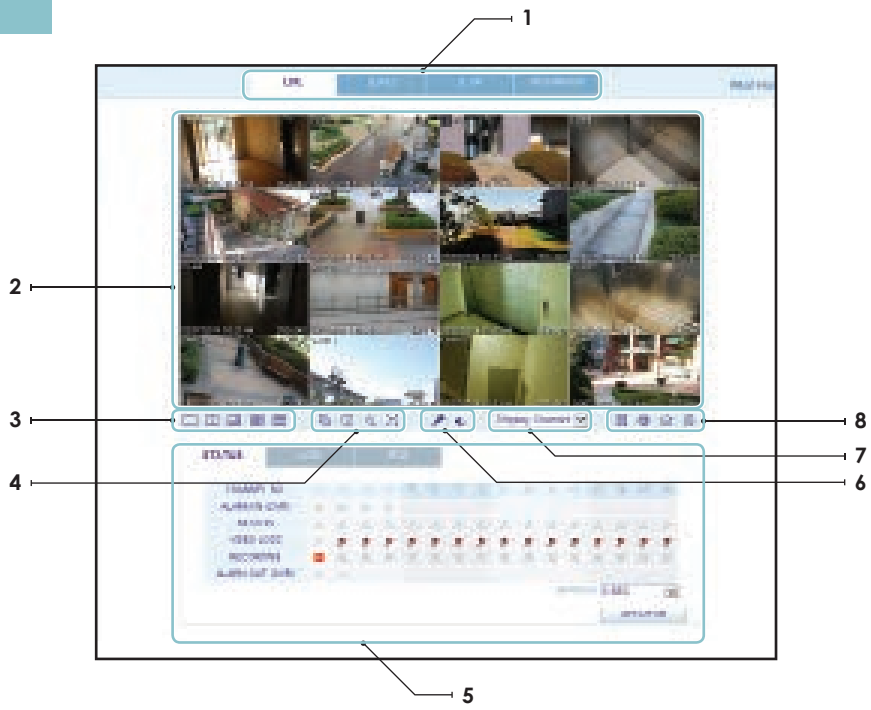


1. Provide the user ID and password.
   - ☑ The default user name: ADMIN; the default password is 1234.

2. Click the lower warning bar to install the ActiveX.
   - ☑ If you fail to download the ActiveX control, move to Tools; Internet Options; Security; Custom Level; Download unsigned ActiveX control, and change its setting from “Disable (recommended)” to “Enable”, and then click OK.
3. Click <Install>

4. When the installation is complete, you will see the live screen.

Live Screen at a glance



No.	Name	Description
1	View selection tab	You can switch between the live, search, setup and information.
2	Live	Display the live screen of the currently connected VXH960.
3	Split Mode	Select and switch to a desired split-screen mode.
4	Sequence, Zoom	Set the sequence mode, switch to the next camera, zoom the screen or select the full screen mode.
5	Status	Show the connection status of each channel.
	Log	Show the log.
	Refresh Time	Set the interval at which the DVR Status is refreshed.
	Refresh	Refresh the DVR status immediatley
	PTZ	To control a PTZ
6	Voice transmission	With the microphone, your voice will be transmitted to the DVR, or you can turn on or off the output
		of the voice signal.
7	Channel	Select a channel listed in the screen.
8	Save	Save the live video on the screen.
	Print	Print out the current screen.
	Capture	Capture the selected image.
	ActiveX Settings	Configure the ActiveX settings or specify the saving path of the captured image.

Switching the split mode

Click the Switch button to switch the mode as follows

<1-split Mode>

<4-split Mode>

<8-split Mode>

<9-split Mode>

<16-split Mode>

To save the video

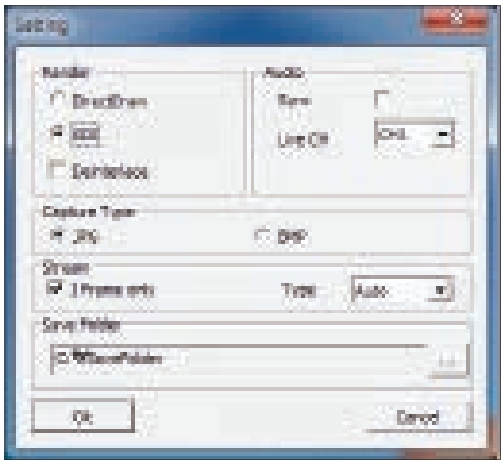
1. Click < > to start saving.
2. The video from the selected channel will be saved to the PC in the AVI format. (Default path: C:\SaveFolder)
   Click < > again to stop saving. Click < ActiveX Setting > to display the context menu where you can change the saving path.

Print

1. Click < >.
2. The current screen will be printed with the printer connected to the PC

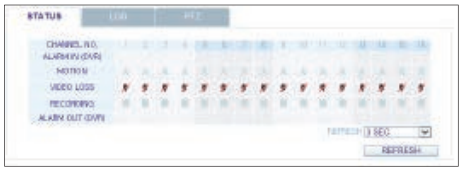
Screen capture

1. Click < >.
2. The current screen of the selected channel will be saved to the path specified in the PC. (Default path: C:\SaveFolder) Click <ActiveX Setting> to display the context menu where you can change the saving path.



ActiveX Settings

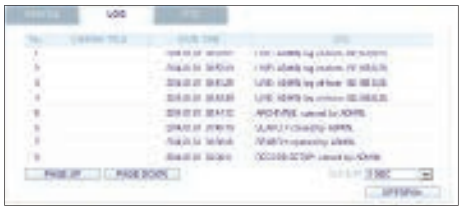
1. Click < >.
2. When the setup screen appears, you can change the settings of the render type, audio, capture and saving path as well as the video streaming.
   > Render: DirectDraw is recommended in order to enable the hardware acceleration.
3. If you want to change the saving path, click < ... > (Save Folder) and specify a new path.
   Windows Vista users cannot change the saving path.
4. Change the streaming settings according to the PC specification and network environment. Auto mode is recommended.
   > Sync: If this option is set, the audio signal will be synchronized with the video signal. However, you may encounter a delay due to buffering for the synchronization.
   > Live CH: Set the audio signal to use in live monitoring mode.
   > I Frame Only: Only the I frames (key frames) will be transferred.
   > Type
   - Auto: The DVR will optimize the quality and FPS to the network status and specification of the connected PC before transferring the data.
   - Main: The video will be transferred in high definition (HD).
   - Second: The video will be transferred in a medium definition(SD).
5. When done, click <OK> to save your settings.



Status tab

Click <Status> at the bottom of the screen.

You can check the event occurrence for each channel of the connected DVR.



Log tab

Click <Log> at the bottom of the screen.

You can check the log of the connected DVR.

PTZ tab

Click <PTZ> at the bottom of the screen.

You can control the operations of a PTZ camera.

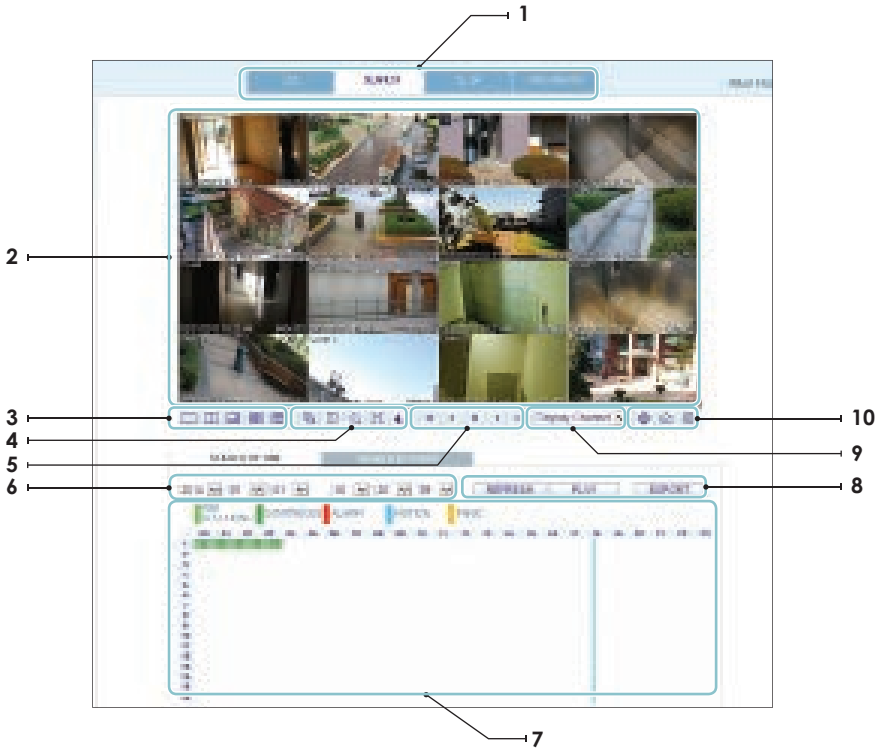
Adjust the focus, zooming and iris of the camera.

You can use the arrow buttons to control the operations of the camera.

- Pattern: You can configure various settings of the camera including the zooming and movement. (Applied to some PTZ cameras only)
- Preset: Move the camera to a predefined direction.
- Swing: The camera will move back and forth to a set position

Search viewer at a glance

Click <SEARCH> to display the remote control screen for the DVR.

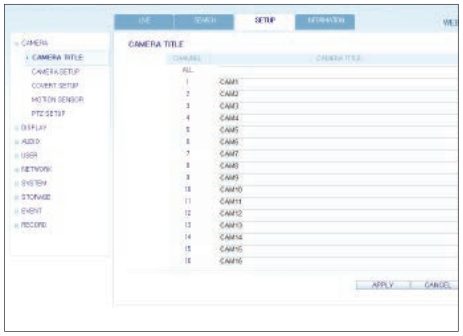


No.	Name	Description
1	View selection tab	You can switch to the live, playback and setup screen and check the provided information.
2	Playback Screen	Play the recording data.
3	Split Mode	Select and switch to a desired split-screen mode.
4	Sequence , Zoom	Set the sequence mode, switch to the next camera, zoom the screen or select the full screen mode.
	Voice Transfer	Youcan turn on/off the voice signal.
5	Play button bar	You can control the playback screen.
6	Time Selection	Specify the start time of playback.
7	Time Line	Indicates the status of the recorded data.
8	Refresh	Reload the time line.
	Play	Play the video that satisfies your search criteria.
	Export	Archive the video that satisfies your search criteria
9	Channel Selection	Select a channel listed in the screen.
10	Screen	Print out the current screen.
	Image Capture	Capture the selected image.
	ActiveX Settings	Configure the ActiveX settings or specify the saving path of the captured image.

Search by time

Use the timeline to search for the data recorded on the DVR.

1. Select a date that you want to search.
2. Click <REFRESH>.
3. Check the recording data in the bottom time line and specify the time range for your search.You can specify the start time by moving the time bar.
4. Click <PLAY>.
   - > REFRESH: If your changes are not applied to the current screen, reload the changes.
   - > PLAY: Play the searched video.
   - > Export: Archive the recorded video



Search by event

You can sort the recording data items by event to help your search.

1. Mark the checkbox of the event that you want to search for.
2. Specify the start and end dates and times for your log search.
3. Set the display order of the items found.
   - > LATEST: The most recent event will be listed on top.
   - > OLDEST: The earliest event will be listed on top.
4. Click <SEARCH>.
   You can check the log for your search at the bottom of the screen.
5. Select a log to play the recording data.

Click <SETUP> to display the remote control screen for the DVR.
When done, click <APPLY > to apply the changes to the remotely connected DVR.

☑ If the VXH960 is in system or record settings then the remote control setup via the web browser will be disabled.

Setup Viewer at a Glance

CAMERA

To name the camera title

You can name the camera title that is displayed on each channel screen. Select a channel to name and provide a new title. Then, click <APPLY > to apply it.

☑ You can enter up to 9 alphanumeric characters for the camera title.

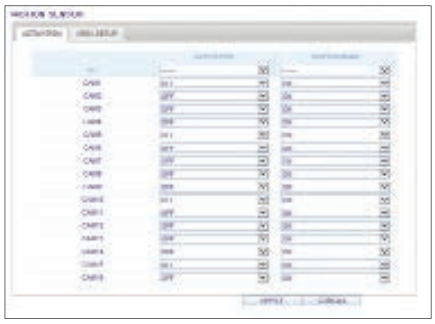
Image Setup

You can set the brightness, contrast, tint, and colour of each channel. When done, click <APPLY> to apply the changes.

☑ The default value is 50.

Covert Setting

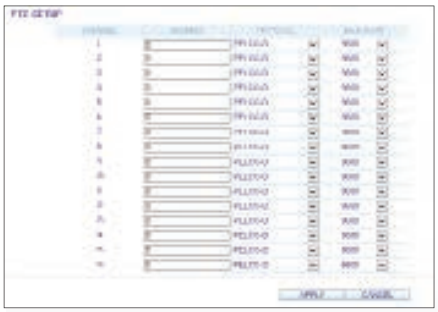
To to hide the video of a specific camera from a specific user group tick the check box against the channel in the correct user group column. When done, click <APPLY> to apply the changes.



Motion Setting

To set each camera's motion detection, day and night time. Select a channel. Set the mask area, activation and specify the daytime range. When done, click <APPLY > to apply the changes.

☑ For information about how to set the motion area, refer to "Motion Area Setup". (page 29)



PTZ Setting

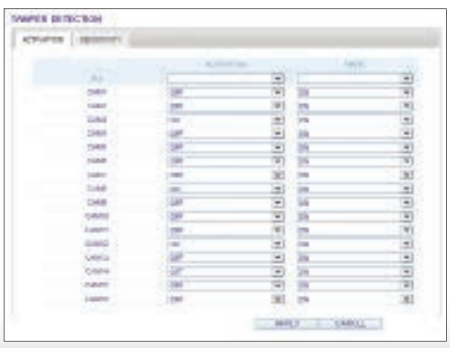
You can set the camera ID, protocol, baud rate and data transmission speed for each channel.

☑ For information about how to set the PTZ, refer to "PTZ Settings". (page 30)

Privacy Mask

To set the privacy mask activate the channel and then select an area of where the mask is needed.

☑ For more information on Privacy Mask refer to "PRIVACY MASK." (Page 30)



TAMPER

To detect a tampering attempt on the installed camera, change the settings here.

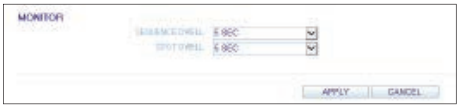
☑ For information about how to set the TAMPER, refer to "TEMPER DETECTION". (page 31)

DISPLAY

OSD Setting

Configure the settings for the time, title, boarder line, icon and language that will be displayed on the screen. Make changes to each item of the OSD menu and click <APPLY> to apply the changes.

☑ For details about each displayed item, refer to “OSD”. (page 32)



Monitor Settings

To set the interval of an active sequence. Specify the interval and click <APPLY> to apply it.

> Sequence Dwell: Switching time from one channel to the next channel in single screen mode.

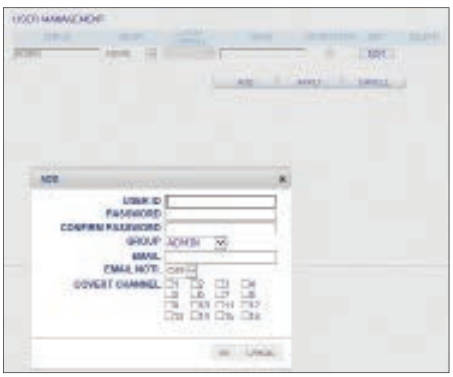
> SPOT DWELL: It means the interval between the view types when displaying the SPOT Out monitoring screen.

AUDIO

Audio/Buzzer

You can configure the settings of the voice and audio signal.

☑ For details about each displayed item, refer to “Audio Setup”. (page 36)



USER

User Management

To add a user account and change the password.

☑ For details about each displayed item, refer to “User Setting”. (page 37)

To add a user, click <ADD> and provide the user information.
If you want to delete the user click <DELETE> next to it.
When done, click <APPLY> to apply the change.

Group Permission Setting

To grant different user groups different permissions to a specific menu.
Mark the checkboxes of the menu items accessible by the user group.
When done, click <APPLY> to apply the changes.

☑ For more information about the accessible menu items, refer to “Group Authority”. (page 38)

NETWORK

IP Setting

To check the network connection status and to the change the IP address.
When done, click <APPLY> to apply the change.

☑ For more information about each network entry, refer to “IP Setup”. (page 39).

DDNS Setting

You can configure the DDNS settings so that remote users who are connected to the network can access it remotely.
Change the DDNS settings and click <APPLY> to apply the changes.

☑ For more information, refer to DDNS (Page 40)

Email Setting

You can register and test an email address so that an email notification is delivered at a specific interval or if an event occurs.
Provide the necessary information and click <APPLY> to apply the chnages.

☑ For more information, refer to “Email”. (page 41)

SYSTEM

Date/Time Setting

Specify the current date and time.

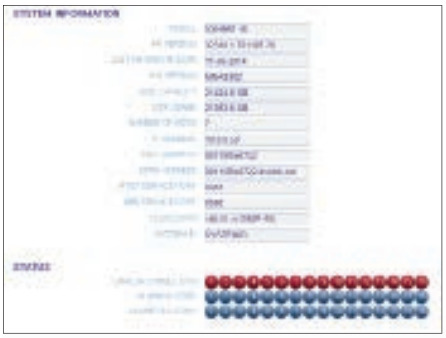
When done, click <APPLY> to apply the changes.

☑ For more information about each of the time and date settings, refer to “Date/Time”. (page 43)

System Management

You can configure the System ID, the access settings of: log in, log out, and auto logout.

☑ For more information about system management refer to “System Management”. (Page 44)



System Information

You can check information of system firmware version, disk space, and network settings, as well as the status information of network connection and alarm I/O.

Control Device Setting

Set the connection of both the remote control and the keyboard control.

Changethecommunication settings and click <APPLY>to apply the changes.

☑ For more information about each communication item, refer to “Control Device”. (page 46)

STORAGE

Device Information

You can check a list of internal/external storage devices connected to the VXH960 as well as the recording time information of each device.

☑ For more information on Storage refer to “Storage”. (page 47)

Disk Operations

To check the disk write mode and the recording time limit.

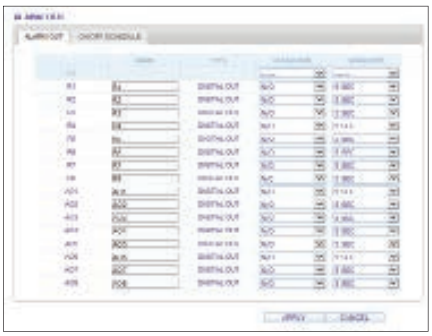
☑ For more inforation about Disk Operations refer to “Disk Operations”. (Page 48)

S.M.A.R.T Status

You can check the S.M.A.R.T status for each of the internal and external devices.

☑ What is S.M.A.R.T?

S.M.A.R.T. (Self Monitoring, Analysis, and Report Technology) is to detect a HDD that is likely to cause problems in the future with a warning message. For more information about S.M.A.R.T. refer to “S.M.A.R.T Settings”. (Page 49)



EVENT

Alarm Output

Specify the alarm output conditions with the work schedule. When done, click <APPLY> to apply the changes.

☑ For more information about the alarm output and ON/OFF schedule, refer to “Alarm Out”. (page 50)

Event Notification

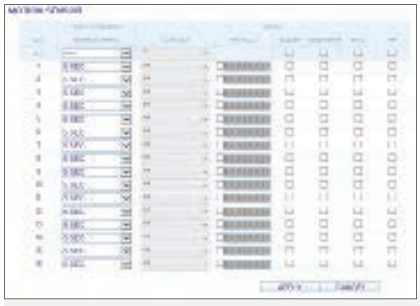
Specify the notification method using either the <BUZZER OUT>, <DISPLAY>, <EMAIL> and <FTP> against the event alarm that occurs Specify the buzzer output time, video popup time, email notification and FTP notification. Click <APPLY> to apply the changes.

☑ For more information about the event notification, refer to "Event Notification". (page 51)

Alarm Sensor

You can configure the settings of the alarm sensor and specify the operation of the sensor if an event occurs.
When done, click <APPLY> to apply the changes.

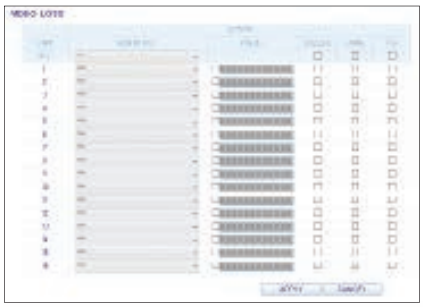
☑ For more information about each of the alarm sensor actions, refer to "Alarm Sensor". (page 54)



Motion Sensor

You can set an action to execute when motion is detected.
When done, click <APPLY> to apply the changes.

☑ For more information about how to set the motion sensor, refer to "Motion Sensor". (page 55)



Video Loss

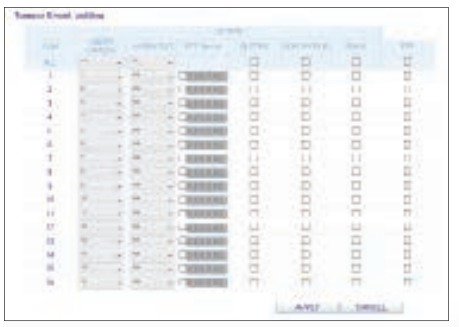
You can select an action for <BUZZER>, <EMAIL> and <FTP> and determine what to do on the alarm output port if no video is received from the camera. When done, click <APPLY> to apply the changes.

System Event

You can set which action to perform if an event related to the disk, recording, system or network happens.
You may want to notify the user of the event using the alarm output, buzzer, OSD popup, email and FTP.

When done, click <APPLY> to apply the changes.

☑ For more information about how to set the system event, refer to “System Event”. (page 57)



Tamper Event settings

You can set how to react upon a detected tampering event.
When done, click <APPLY> to apply the changes.

☑ For more information about how to set the Tamper Event, refer to “TAMPER EVENT”. (page 59)

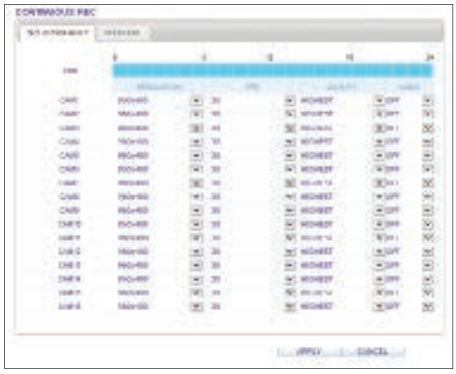
RECORD SETUP

Record Setting

You can set the recording options for Auto or Manual mode.

When done, click <APPLY> to apply the changes.

☑ For more information about how to set each mode, refer to “Operation Mode”. (page 60)

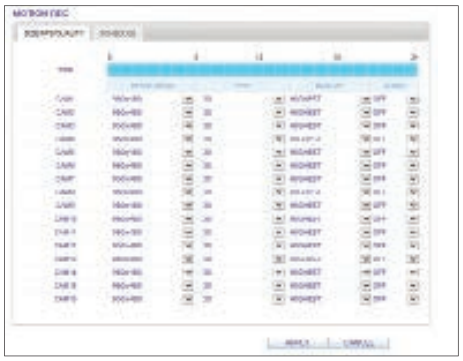


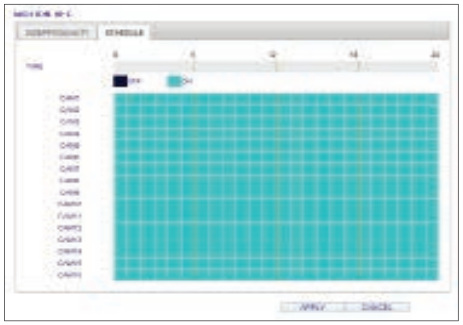
Continuous Recording

You can configure the settings of: continuous recording time, recording size, frame rate per second and quality.
Click < ▣ > next to each item to display the list of values available.

When you complete the recording size and schedule settings, click <APPLY> to apply your settings.

☑ For more information about the continuous recording size and schedule, refer to “Continuous Recording”. (page 61)





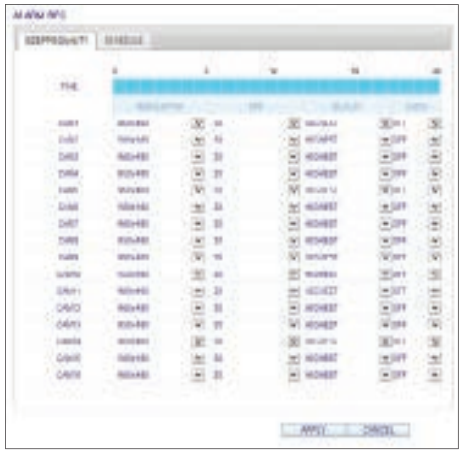
Motion Recording

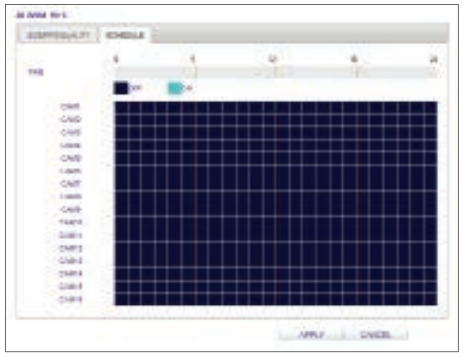
Set the <SIZE/FPS/QUALITY/AUDIO> and the <SCHEDULE> to apply if a motion event occurs.

Click <▪> next to each item to display the list of values available.

Complete setting the <SIZE/FPS/QUALITY/AUDIO> for the motion recording as well as the <SCHEDULE>, and click <APPLY> to apply the changes.

☑ For more information about the motion recording size and schedule, refer to “Motion Recording”. (page 61)



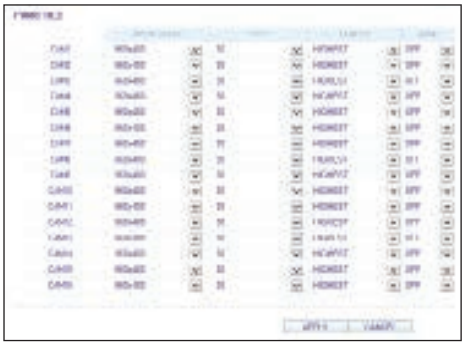


Alarm Recording

Set the <SIZE/FPS/QUALITY/AUDIO> and the <SCHEDULE> if an alarm event occurs. Click <▪> next to each item to display the list of values available.

Complete setting the <SIZE/FPS/QUALITY/AUDIO> for the alarm recording as well as the <SCHEDULE>, and click <APPLY > to apply the changes.

☑ For more information about the alarm recording size and schedule, refer to “Alarm Recording”. (page 61)



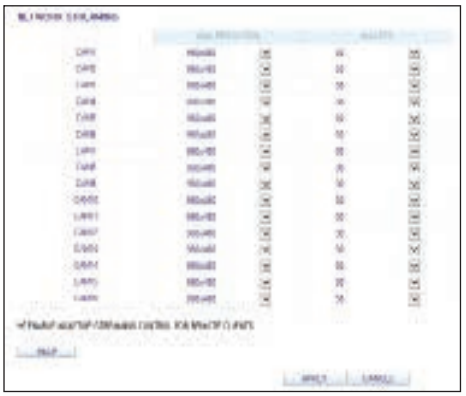
Panic Recording

From the <PANIC RECORD> menu, you can set the resolution, FPS, quality and audio settings to your preference.

Click < ▪ > next to each item to display the list of values available.

When you have completed the manual record settings, click <APPLY> to apply the changes.

☑ For more information about the manual record settings, refer to “Panic Recording”. (page 64)



Network Streaming

You can specify the maximum size of network streaming and video resolution for remote users and change the FPS.

Click < ▪ > next to each item to display the list of values available.

When done, click <APPLY> to apply the settings.

☑ For more information about Network streaming, refer to “Network Streaming”. (Page 64)

Audio Mapping

You can specify the audio channel for each video channel.

☑ For more information on Audio Mapping refer to “AUDIO MAPPING”. (Page 64)

About

Click the <INFORMATION> tab to check the model name of the VXH960 as well as the web viewer version.

VXH264 Pro Specification

You can use the VXH264PRO App to monitor the network on a remote site and play the monitoring video anytime anywhere

Minimum/ recommended specification

OS	Minimum specification	Recommended specification
Android Phone	Processor:800 MHz or higher	Processor: 1 GHz or higher
	Flash: 512 MB or higher	Flash: 512 MB
	RAM: 512 MB or higher	RAM: 512 MB
	SD Card: 4 GB or higher	SD Card: 16 GB or higher
	OS: 2.0 or higher	OS: 2.1 or higher
iPhone	iPhone 3G,	iPhone 3GS or higher
	iPod touch 3rd Generation	iPhone OS 3.2 or higher
	iPhone OS 3.1.3 or higher	

USING THE VXH264 PRO ON IPHONE

How to download the iPhone-dedicated application

From your iPhone, access the App Store.

Enter “VXH264 Pro” in the search bar to find. Download and install the application on your iPhone.

☑ The VXH264 Pro supports the 1/4 split screen mode.

! With the VXH264 Lite, you cannot: check the log, control the PTZ operations or change the system settings.

To connect to DVR with VXH264 Pro

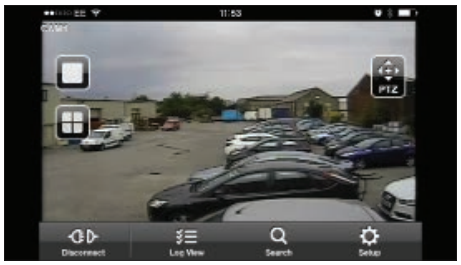
1. Select and run the VXH264 Pro.
2. Press <+> in the top right corner of the DVR List to select and add a site to the list.

3. Enter the server name, IP address, HTTP port number, RTSP port number, ID and password then click <save>.

4. Select the site that you added in the server List.

5. Try to access the DVR.

   If connected successfully, you will see the screen as shown.



Split Mode

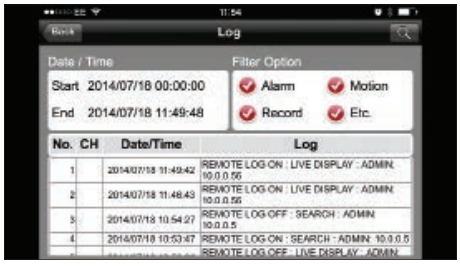
1. Press any area on the screen.
   The main menu appears at the bottom of the screen.

2. Press <▢> in the top left corner to switch to 1-split mode; click <⊞> to switch to 4-split mode.

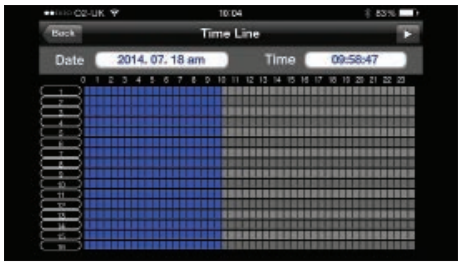
   ☑ swipe screen left or right to change the camera channel.

Using the Log View

1. From the main menu, press <Log View>.
   You can check the log of the data stored.



2. Select one from Alarm, Motion, Record, Etc. and press <🔍>.
   You will view the log of related items.

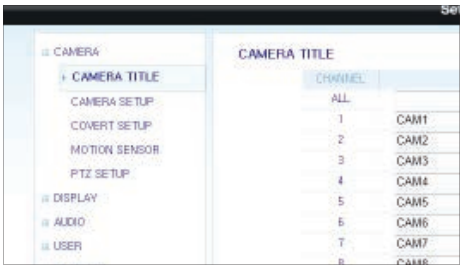


Using the Search function

1. From the main menu, Press <>.
   You can view the history of the data stored.
2. Select a desired time and date.
   You can use the vertical time bar to specify the start time.

3. Press < > to play the video recorded at the specified time.

4. Press any area to display the play bar with which you can control the playing direction and speed of the video.



Using the Setup function

From From the main menu, press <>.
You will be connected to the web viewer site.

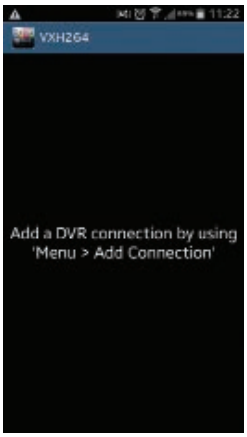
☑ For details about each displayed item, refer to “Setup”.
(page 76)

USING THE VXH264 PRO WITH ANDROID

How to download the Android-dedicated application

From your smart phone, access the Google Play.

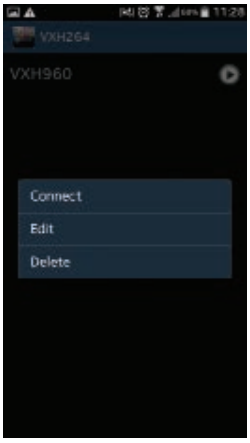
Enter “VXH264” in the search bar to find it. Downloading and install the application on your Smart Phone.



To connect to DVR with VXH264 Pro

1. Select and run the VXH264 Pro.
2. Use the Add button to select and add a site to the list.

3. Please enter a Name.
4. Provide the IP address, HTTP port number, RTSP port number, and click <Save>.
5. Provide the access ID of the DVR as well as the password.
6. Select whether or not to save the ID and PW.
7. Press <Save>

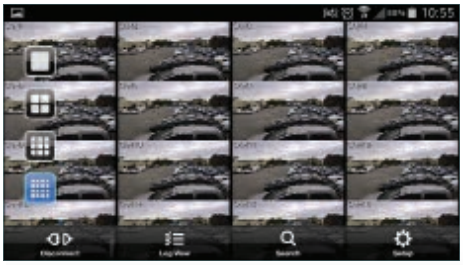


8. Select the site that you added in the DVR List.
   Press and hold the connection button to display the pop-up window.

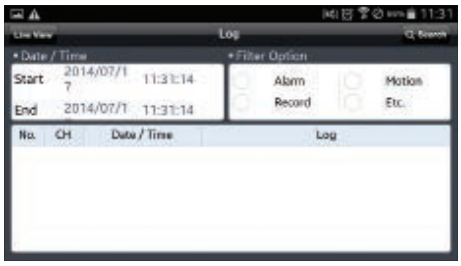
9. Select <Connect> and try to access.
   If connected successfully, you will see the screen as shown.

Split Mode

1. Press any area on the screen.
   The main menu appears at the bottom of the screen.



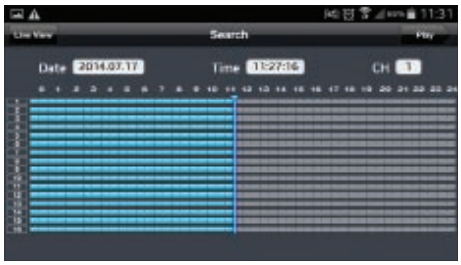
2. Press < > on the top left corner to switch to 1-split mode; click < > to switch to 4-split mode; press < > to switch to 9 split mode; click < > to switch to 16 split mode.



Using the Log View

1. From the main menu, press < >.
   You can check the log of the data stored.

2. Select one from Alarm, Motion, Record, Etc. and press < >.
   You will view the log of related items.

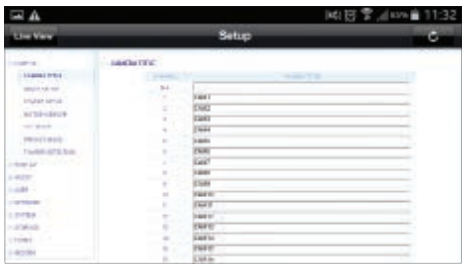


Using the Search function

1. From the main menu, press <>.
   You can view the video of the recording data.
2. Select a desired time and date.
   You can use the vertical time bar to specify the start time.

3. Press < > to play the video recorded at the specified time.

4. Press any area to display the play bar with which you can control the playing direction and speed of the video.



Using the Setup function

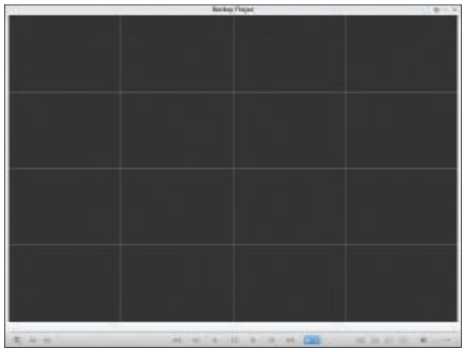
1. From the main menu, press <>.
   You will be connected to the web viewer site.
   For details about each displayed item, refer to “Setup”. (page 76)

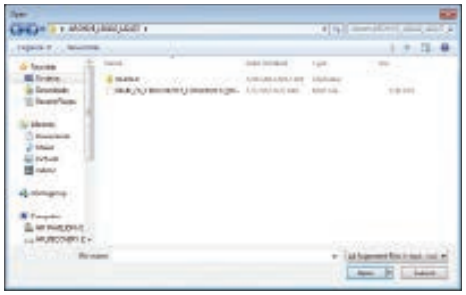
You can play the data archived in the DVR.

You can play the HDD data recorded by the DVR.

Viewing archived footage from a PC/Laptop

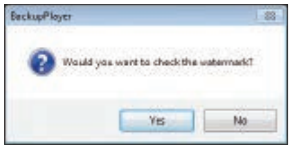
1. After the footage has been archived from a DVR, it can be viewed on a PC/laptop.
Insert the USB stick containing the archive in the PC and view the contents using windows explorer.

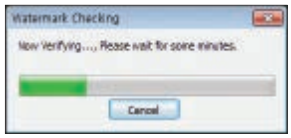




2. Run the Backup Player.

3. Click < > in the bottom left corner to display the file browser. Select the archived file to play.





4. Check the integrity of the archived file.

5. When done, the archived file will be played on the screen.

Backup Player At a Glance

No.	Name	Description
1	Setup	Configure the settings.
	Minimize, Maximise	You can minimize or maximise the Backup Player.
	Close	Close the Backup Player.
2	Channel Information	Show the channel information and the video resolution.
3	Play Time	Display the time of the current video image.
4	Play Time	Display the current playback time.
5	File Search	Open the file that you backed up.
	Capture	Capture the current screen.
	Print	Print out the current screen.
6	Playback Control	Control the playback direction and speed of the current video.
		For more information about how to use the playback control buttons, refer to “Using the play bar”. (page 69)
7	Split Mode	Switch to 1/4/8/16 split screen mode.
8	Audio Setting	Show the sound signal status and volume level.
9	Play Bar	Display the current playback position in the video.

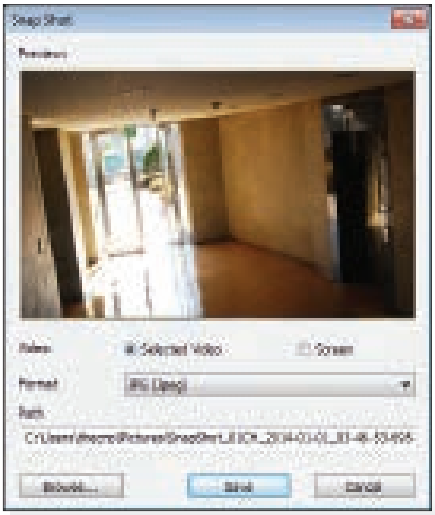


Image Capture

Click <> to create a snapshot

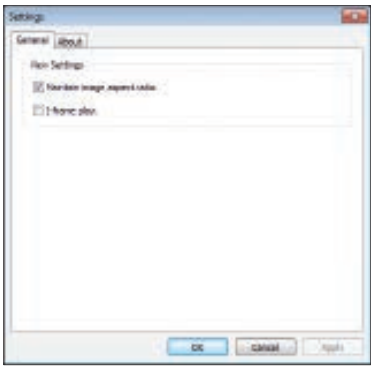
- Selected Video: Capture the current viewing frame.
- Screen: Captures the correct aspect ratio.
- Format: Select a saving format. (BMP, JPG, PNG)
- Path: Specify the saving path.

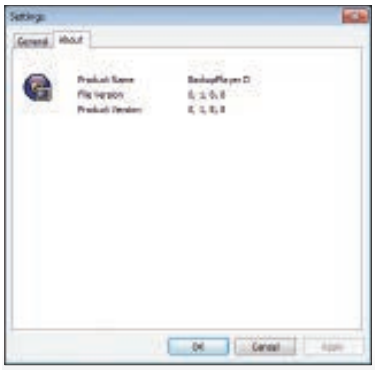
Default location: My documents/My pictures.

Print Out

Click < > Button to print out the image.

When the “Print” window appears, check the preview and click <Print>.





Settings

Click < > to configure the Backup Player settings.

You can check the version of the Backup Player.

- Maintain image aspect ratio: Preserve the aspect ratio of the image.

If you do not mark this option, the image will be adjusted to fit the screen.

- I-frame play: Plays i-frames (key frames) of the video.

- About: You can check the program information including the current version.

Appendix A Specification

MODEL		VXH960-4	VXH960-8	VXH960-16
CHANNEL		4CH	8CH	16CH
VIDEO	INPUT SIGNAL	PAL / NTSC	PAL / NTSC	PAL / NTSC
	MAIN MONITOR	VGA / HDMI	VGA / HDMI	VGA / HDMI
	SPOT OUT	ANALOGUE 1CH (1VPP, 75 OHM), SUB MONITOR (DIGITAL)	DIGITAL 1CH/4CH (1VPP, 75 OHM) X2, SUB MONITOR (DIGITAL)	DIGITAL 1CH/4CH (1VPP, 75 OHM) X2, SUB MONITOR(DIGITAL)
	LOOP THROUGH	4 CH(1VPP, 75 OHM)	8 CH (1VPP, 75 OHM)	16 CH (1VPP, 75 OHM)
	MOTION DETECTION	YES	YES	YES
AUDIO	INPUT SIGNAL	4 CH(10K OHM, 2.8VPP)	8CH (10K OHM, 2.8VPP)	16 CH (10K OHM, 2.8VPP)
	OUTPUT SIGNAL	1CH(600 OHM, 2.8VPP)	1CH (600 OHM, 2.8VPP)	1CH (600 OHM, 2.8VPP)
	CODEC	G.711	G.711	G.711
RECORDING	CODEC	H.264	H.264	H.264
	REC. RATE	100FPS @ 960H	200FPS @ 960H	400FPS @ 960H
		100FPS @ D1	200FPS @ D1	400FPS @ D1
		100FPS @ 2CIF	200FPS @ 2CIF	400FPS @ 2CIF
		100FPS @ CIF	200FPS @ CIF	400FPS @ CIF
	REC. RESOLUTION	CIF, 2CIF, D1, 960H	CIF, 2CIF, D1, 960H	CIF, 2CIF, D1, 960H
ALARM I/O	ALARM INPUT	4CH, PULLED UP TO 5V VIA 10K OHM	10CH (8CH+2CH), PULLED UP TO 5V VIA 10K OHM	18CH (16CH+2CH), PULLED UP TO 5V VIA 10K OHM
	ALARM OUT	2CH, RELAY(5V, 35MA)	4CH, RELAY(5V, 35MA)	8CH, RELAY(5V, 35MA)
		-	-	-
STORAGE	INTERNAL HDD	MAX 2EA HDD	MAX 5EA HDD	MAX 5EA HDD
	EXTERNAL STORAGE	ESATA, NAS(FTP SERVER, FOR BACKUP)	ESATA, (FTP SERVER, FOR BACKUP)	ESATA, (FTP SERVER, FOR BACKUP)
INTERFACES	USB	3 PORTS (2 FRONT + 1 REAR)	3 PORTS(2FRONT + 1 REAR)	3 PORTS (2FRONT + 1 REAR)
	RS-485	1	2	2
	RS-232	1	1	1
	LAN	1 (WAN) - 10/100MBPS	1 (LAN) + 1 (WAN) - 10/100/1000MBPS	1 (LAN) + 1 (WAN) - 10/100/1000MBPS
	REMOTE CONTROL	YES	YES	YES
ETC	SIGNAL SWITCH	NTSC/PAL	NTSC/PAL	NTSC/PAL
	WATCHDOG	YES	YES	YES
	COOLING FAN	MAX 1X 60MM	MAX 2X 60MM	MAX 2X 60MM
POWER	POWER SUPPLY	DC12V, ADAPTOR, 5A, 100~200V AC, 50-60HZ	SMPS, 100W, 100~220VAC, 50~60HZ	SMPS, 100W, 100~220VAC, 50~60HZ
	POWER CONSUMPTION	12W MAX, WITHOUT HDD	21W MAX, WITHOUT HDD	24W MAX, WITHOUT HDD
ENVIRONMENT	TEMPERATURE	0°C ~ 40°C(32°F~104°F)	0°C ~ 40°C(32°F~104°F)	0°C ~ 40°C(32°F~104°F)
	HUMIDITY	10 ~ 90% NC	10 ~ 90% NC	10 ~ 90% NC
CHASSIS	DIMENSIONS	1.5U(360 X 360 X 66)	430 X 367 X 88.4	430 X 367 X 88.4
	WEIGHT	-	-	-
CERTIFICATION	UL, CUL, FCC, CE	-	-	-
MONITORING	DISPLAY RATE	100FPS	200FPS	400FPS
	DISPLAY RESOLUTION	1080P, 720P, 1280X1024 (HD DISPLAY, VGA),	1080P, 720P, 1280X1024 (HD DISPLAY, VGA),	1080P, 720P, 1280X1024(HD DISPLAY, VGA),
		DUAL DISPLAY (MIRRORING)	DUAL DISPLAY (MIRRORING)	DUAL DISPLAY (MIRRORING)
	DISPLAY MODE	1,4	1,4,6,8,9	1,4,6,8,9,16
	SEQUENCE	PROGRAMMABLE SEQUENCE	PROGRAMMABLE SEQUENCE	PROGRAMMABLE SEQUENCE
	DIGITAL ZOOM	YES	YES	YES
	FREEZE	-	-	-
	COVERT CAMERAS	YES	YES	YES
	SPOT MONITOR	2 (DIGITAL) (PROGRAMMABLE SEQUENCE)	2 (DIGITAL)	4 (DIGITAL)
	CAMERA COLOUR CONTROL	YES (CONTRAST, COLOUR,TINT, BRIGHTNESS)	YES (CONTRAST, COLOUR, TINT, BRIGHTNESS)	YES (CONTRAST, COLOUR,TINT, BRIGHTNESS)
	PTZ CAMERA	YES (RS-485/COAXIAL CONTROL)	YES (RS-485/COAXIAL CONTROL)	YES (RS-485/COAXIAL CONTROL)
RECORD	VIDEO COMPRESSION	H.264	H.264	H.264
	AUDIO COMPRESSION	G.711	G.711	G.711
	RECORDING RESOLUTION	960H/D1/2CIF/CIF	960H/D1/2CIF/CIF	960H/D1/2CIF/CIF
	RECORDING RATE	UP TO 100FPS @ 960X576 / D1	UP TO 200FPS @ 960X576 / D1	UP TO 400FPS @ 960X576 / D1
		UP TO 120FPS/100FPS @ CIF	UP TO 240FPS/200FPS @ CIF	UP TO 400FPS @ CIF
	SCHEDULE METHOD	DAILY/WEEKLY EACH HOUR	DAILY/WEEKLY EACH HOUR	DAILY/WEEKLY EACH HOUR
	PROGRAMMABLE FOR CH	YES	YES	YES
	MANUAL RECORDING	YES	YES	YES
	POST-EVENT RECORDING	5/10/15/20/30/60/180 SEC	5/10/15/20/30/60/180 SEC	5/10/15/20/30/60/180 SEC
	EVENT RECORDING	YES	YES	YES
	PRE-EVENT RECORDING	0/1/2/3/4/5/10/15 SEC	0/1/2/3/4/5/10/15 SEC	0/1/2/3/4/5/10/15 SEC
	PANIC RECORDING	YES	YES	YES
	EVENT LOGGING	YES (MOTION, TAMPER, ALARM, PANIC, VLOSS)	YES (MOTION, TAMPER, ALARM, PANIC, VLOSS)	YES (MOTION,TAMPER,ALARM,PANIC,VLOSS)
	SYSTEM LOGGING	YES (SYSTEM ON/OFF, TIME CHANGED, HDD/EMAIL OPERATIONS,	YES (SYSTEM ON/OFF, TIME CHANGED, HDD/EMAIL OPERATIONS,	YES (SYSTEM ON/OFF, TIME CHANGED, HDD/EMAIL
		SYSYEM OPERATIONS)	SYSYEM OPERATIONS)	OPERATIONS, SYSYEM OPERATIONS)
	SETUP LOGGING	YES (SETUP CHANGED)	YES (SETUP CHANGED)	YES(SETUP CHANGED)
	REMOTE LOGGING	YES(WHO, IP ADDRESS, REMOTE OPERATIONS)	YES (WHO, IP ADDRESS, REMOTE OPERATIONS)	YES (WHO, IP ADDRESS, REMOTE OPERATIONS)

MODEL		VXH960-4	VXH960-8	VXH960-16
SEARCH &	DISPLAY MODE	1/4	1/4/8	1/4/9/16
PLAYBACK	PLAYBACK RATE	UP TO 120FPS @ 960X480	UP TO 120FPS @ 960X480	UP TO 120FPS @ 960X480
	PLAYBACK SPEED	X1, X2, X4, X8, X16, X32, X64	UP TO 240FPS @ CIF	UP TO 4800FPS @ CIF
	CALENDAR SEARCH	YES (2008/1/1 – 2036/1/1)	X1, X2, X4, X8, X16, X32, X64	X1, X2, X4, X8, X16, X32, X64
	EVENT SEARCH	YES	YES (2008/1/1 – 2036/1/1)	YES (2008/1/1 – 2036/1/1)
	TIME SEARCH	YES	YES	YES
	THUMBNAIL SEARCH	YES	YES	YES
	PLAYBACK ON LIVE	-	-	-
ARCHIVING	ARCHIVING DEVICES	USB MEMORY, FTP	USB MEMORY, FTP	USB MEMORY, FTP
	REMOTE ARCHIVING	YES(WEB RA, VMS, FTP)	YES (WEB RA, VMS, FTP)	YES (WEB RA, VMS, FTP)
	SNAPSHOT ARCHIVING	YES	YES	YES
	DATA RESERVING	YES	YES	YES
	RESERVED DATA LIST MANAGEMENT	YES	YES	YES
	BACKUP DATA FORMAT	AVI, RAW	AVI, RAW	AVI, RAW
	WATERMARK	MD5	MD5	MD5
	WATERMARK VERIFICATION	YES	YES	YES
	ARCHIVED DATA PLAYBACK	YES (SINGLE CHANNEL ONLY)	YES (SINGLE CHANNEL ONLY)	YES (SINGLE CHANNEL ONLY)
NETWORK	MAX. CONNECTIONS	10 USERS	10 USERS	10 USERS
	DHCP	YES	YES	YES
	DDNS	YES	YES	YES
	TRANSMISSION RATE	MAX 120 FPS	MAX 240 FPS	MAX 480 FPS
	BANDWIDTH CONTROL	YES	YES	YES
	WEB BROWSER ACCESS	YES	YES	YES
	REMOTE MONITORING	YES	YES	YES
	REMOTE PLAYBACK	YES	YES	YES
	REMOTE ARCHIVING	YES	YES	YES
	REMOTE SETUP	YES	YES	YES
	REMOTE PTZ CONTROL	YES	YES	YES
	REMOTE HEALTH CHECK	YES	YES	YES
	VMS SUPPORT	YES	YES	YES
	TWO-WAY AUDIO	YES	YES	YES
	PC BASED REMOTE AGENT	YES (WINDOWS, MAC)	YES (WINDOWS, MAC)	YES (WINDOWS, MAC)
	SMART PHONE APPLICATION	YES (IOS, ANDROID)	YES(IOS, ANDROID)	YES (IOS, ANDROID)
	WEB BASED REMOTE AGENT	YES (WINDOWS®, LINUX, MAC OS/X®, ETC.)	YES (WINDOWS®, LINUX, MAC OS/X®, ETC.)	YES (WINDOWS®, LINUX, MAC OS/X®, ETC.)
	WEB VIEWER PLATFORM	-	-	-
	SDK	YES (HTTP, RTSP PROTOCOL BASE)	YES (HTTP, RTSP PROTOCOL BASE)	YES (HTTP, RTSP PROTOCOL BASE)
	AUTO ROUTER PORT FORWARDING	YES	YES	YES
	DUAL STREAMING	YES	YES	YES
	FTP CLIENT	YES (FOR ARCHIVING)	YES (FOR ARCHIVING)	YES(FOR ARCHIVING)
	E-MAIL	YES (SMTP CLIENT)	YES (SMTP CLIENT)	YES(SMTP CLIENT)
	AUTHORITY CONTROL	ADMIN/MANAGER/USER	ADMIN/MANAGER/USER	ADMIN/MANAGER/USER
	PROTOCOLS	RTP, RTSP, RTCP, SMTP, NTP, HTTP, FTP, DDNS, DHCP,	RTP, RTSP, RTCP, SMTP, NTP, HTTP, FTP, DDNS, DHCP, UPNP	RTP, RTSP, RTCP, SMTP, NTP, HTTP, FTP, DDNS, DHCP,
		UPNP(ROUTER PORT FORWARDING)	(ROUTER PORT FORWARDING)	UPNP(ROUTER PORT FORWARDING)
EVENT	VIDEO LOSS EVENT	YES	YES	YES
	EVENT NOTIFICATION	YES (E-MAIL/WEB RA/BUZZER/ FTP)	YES (E-MAIL / WEB RA / BUZZER / FTP)	YES (E-MAIL / WEB RA / BUZZER / FTP)
	EVENT POPUP	YES (ALARM/MOTION/TAMPER)	YES (ALARM / MOTION / TAMPER)	YES (ALARM / MOTION / TAMPER)
	MOTION DETECTION	YES	YES	YES
	MOTION SENSOR AREA	YES	YES	YES
	TAMPER EVENT	YES	YES	YES
USER	LANGUAGE	MULTI-LANGUAGE	MULTI-LANGUAGE	MULTI-LANGUAGE
INTERFACE	JOG/SHUTTLE	YES (DEPENDS ON MECHANICAL SPEC)	YES (DEPENDS ON MECHANICAL SPEC)	YES (DEPENDS ON MECHANICAL SPEC)
	IR REMOTE CONTROLLER	YES	YES	YES
	KEYBOARD CONTROLLER	YES	YES	YES
	MOUSE	YES	YES	YES
	OPERATING SYSTEM	LINUX®	LINUX®	LINUX®
SYSTEM	DST SETUP	YES	YES	YES
	DISK TEMPATURE CHECK	YES (DEPENDS ON HDD SPEC)	YES (DEPENDS ON HDD SPEC)	YES (DEPENDS ON HDD SPEC)
	DISK S.M.A.R.T CHECK	YES	YES	YES
	AUTO DISK RECOVERY	YES	YES	YES
	F/W UPGRADE	YES	YES	YES
	SETUP IMPORT/EXPORT	YES	YES	YES
	PTZ CONTROL	YES (PAN/TILT/ZOOM/FOCUS/IRIS/PRESET)	YES (PAN/TILT/ZOOM/FOCUS/IRIS/PRESET)	YES (PAN/TILT/ZOOM/FOCUS/IRIS/PRESET)

Appendix B Troubleshooting

Problem	Action
The system does not operate, with no actlve LED's on the front of the panel.	• Make sure that the rear switch is turned on • Make sure that the system gets supplied with power correctly. • Check the input voltage.
The unit continuously reboots.	• Check if the system fan is working correctly <MENU> <SYSTEM SETUP> <EVENT> <SYSTEM EVENT > <SYSTEM(TAB)> <FAN FAIL EVENT> If it fails, contact your service provider.
The front LED is lit, but nothing is displayed on the screen.	• Check if your monitor supports the 1080p HDMI input. • Make sure that the monitor input source is set to HDMI. • If using the HDMI-to-DVI cable for the connection, ensure that the input source is set to DVI. • Make sure that the system gets supplied with power correctly. • Check the input voltage.
The sides of the video image are displayed incomplete.	• If the monitor is over-scanning the video, the sides may be hidden. If this is the case, check the menu setting within the OSD of the monitor.
The camera is connected but the image is not displayed.	• Make sure that the IP camera is compatible with the VXH960. • Check if the camera supports PoE. If your camera is not compatible with the PoE protocols, use a separate power source for the camera. • Check if the total power consumption of the cameras exceeds the rated capacity of the VXH960 recorder. If the total exceeds the rated capacity, the unit may not play the video or it may fail to operate. If this is the case, use a separate power source for the camera.
It fails to connect to the web or mobile application.	• Check if the network cable is properly connected to the WAN(UP Link) port of the VXH960 recorder. • Check the port forwarding of the router. • If you cannot get access with the DDNS address, use the IP address of the VXH960 instead. If the VXH960 is connected to the router, use the IP address of the VXH960. You can check the IP address of the router in <NETWORK STATUS> - <EXTERNAL IP ADDRESS>.
I can access the web or mobile application but the video image is not displayed.	• Check that the RTSP service port is correctly port forwarded. • This may happen when the communications provider or network administrator has blocked RTSP port of the VXH960. Change the RTSP port and HTTP port numbers to different ones and set the port forwarding again. • Try to access the web or mobile application using the new port numbers

REQUIREMENTS

1. Netgear DG834 router
2. A Laptop or PC to configure the DG834
3. An Internet connection and all required login details (username and password provided by your ISP)

Setup steps for Internet connection

1. The DG834 has a default IP address of 192.168.0.1, so configure your laptop or PC with an IP address of 192.168.0.2 and gateway of 192.168.0.1 and connect to the DG834 using the standard CAT-5 patch lead supplied with the router.
2. Open Internet Explorer and enter http://192.168.0.1 to connect to the router. When prompted, enter user name of 'admin' and password of 'password'.
3. If the DG834 has never been set-up before, it will prompt whether you wish to use the setup wizard – do not do this.
4. Choose 'Basic Settings' from the menu on the left. Select yes for 'Does your internet connection require a login' and enter your username and password as provided by your ISP. Other information required on this screen can be left at defaults. Apply these settings and then verify that you now have internet access from the PC / Laptop.

Setup steps for connecting a VXH960 locally

1. Configure the VXH960 (refer to page 39 for details) so that it has a unique IP address, which is in the same range as the router and PC/ Laptop. For example, in this case choose 192.168.0.3. Set the gateway IP on the DVR to the router's IP address of 192.168.0.1. Note that the default port number is 6200.
2. Connect the VXH960 to the router using a standard CAT-5 patch lead and verify that it can be 'pinged' from the PC as follows:
   a) To open a command prompt using Windows XP use the following sequence:
      START-RUN - Type in CMD - OK
      For Windows Vista / 7 users:
      START - Type in CMD -Press Enter
   b) At the command prompt, type 'PING 192.168.0.3'. If you see 4 lines saying 'reply from 192.168.0.3: ……..' then the VXH960 is recognised on the local network. If not, work through the above steps again, but also check that the CAT-5 patch lead is OK.

3. At this point, the connection to the VXH960 can be tested locally.

Setup steps to allow remote viewing over broadband

BASIC PRINCIPLES

Imagine the Netgear DG834 is split in to two halves - one half is the private side which serves the local network. This 'half' of the router has its own IP address (typically 192.168.0.1) and other devices (PCs, Laptops, VXH960 etc.) that are connected to it will all have a unique IP address of the form 192.168.0.XXX.

Because this is a private network, it cannot be accessed directly from the outside world.

The other imaginary half of the DG834G is the public side - it also has its own IP address which is allocated to you by your ISP and can either be static (it never changes) or dynamic (your ISP could change it at any time). Because this is a public network, in theory, anyone from the outside world who knows your public IP address can access the router and your private network. But, because the router has a security firewall built in, incoming traffic is severely limited to prevent this.

For this reason, you need to configure the DG834 so that incoming traffic intended for the VXH960 is correctly routed instead of being blocked - this is known as port forwarding.

You will notice on the VXH960 that in the network setup section, there is also two port numbers. These could technically be any value over 1030 but the default values on the VXH960 is acceptable.

In this case, the VXH960 default port values are 6200 and 5554 so two rules needs creating on the DG834 that channels all traffic coming in on ports 6200 and 5554to the VXH960.

Appendix C

Configuring a Netgear DG384 router

Setting-up port forwarding

This section assumes that you have already established a successful connection locally. Log-on to the DG834 and select 'Services' from the menu.

Click 'Add Custom Service' and enter the following values:

Name: VXH960 (or any other name of your choice)
Type: TCP
Start Port: 6200
Finish port: 6200

And click 'Apply'

Then, create a firewall rule as follows:
Select 'Firewall Rules' from the menu. Under the inbound services, click 'Add' and enter the following:

Service: VXH960 (TCP:6200) – This is the service you created earlier.

Action: Leave at 'ALLOW always'.

Send to LAN server: 192.168.0.3 - This is the IP address of the VXH960.

Wan Users and Log settings can be left unchanged.

And click 'apply' to add the new rule.

Repeat this process for the RTSP Port (5554)

Once the firewall rules are set-up, anybody should be able to access the VXH960 from the outside world, as long as they are using the correct software and correct log in details.

To configure the software, the IP address is the public static IP address of your router and the port number in this case will be 6200. The username and password must match those set-up on the VXH960.

Setting up multiple VXH960s on one router

The setup steps in this case are identical but you will need to create a separate service and firewall rule for each VXH960 connected. Note also that each VXH960 must have a unique port setting as well as a unique IP address.

Example – 2 VXH960s connected to a router

1st VXH960 settings
IP address: 192.168.0.3
Port: 6200
RTSP: 5554
Gateway: 192.168.0.1

On the DG834, configure a service on port 6200 and a firewall rule to direct this service to 192.168.0.3

2nd VXH960 settings:
IP address: 192.168.0.4
Port: 6201
RTSP: 5555
Gateway: 192.168.0.1

On the DG834, configure a service on ports 6201 and 1030 and firewall rules to direct these services to 192.168.0.4

The remote client software can then be configured with one connection group containing two VXH960 connections to match the above and then both VXH960s can be accessed remotely at the same time.

Note: If connecting locally over a LAN, the unique 192.168.0.XXX IP address for each VXH960 has to be entered. If connecting over broadband, the same public IP address is entered for both VXH960s – port forwarding on the router takes care of the rest.

Using DDNS to connect

DDNS (Dynamic Domain Name Server) is generally used when your ISP provides you with a dynamic public IP address. The problem with a dynamic IP address is that because it can change regularly, any remote users that need to connect to the VXH960 do not know what IP address to enter in the remote client!

Using DDNS solves this problem. When a VXH960 is correctly configured to use DDNS, it regularly interrogates the router and sends the current public IP address to a 3rd party database. The VXH960 also sends its MAC address, which is unique.

Before using DDNS, the VXH960 must be set up correctly by following the steps on page 39 and verifying that a local connection can be made.

DDNS - enabled

1st DNS server - must be the local IP address of the router
2nd DNS server - must be the IP address of the ISP's 2nd DNS server
DDNS server - leave set as DDNS.DVRLINK.NET

Note: if the ISP's DNS servers are not known, they can be identified as follows:

A) To open a command prompt using Windows XP use the following sequence:
START-RUN - Type in CMD - OK
For Windows Vista / 7 users:
START - Type in CMD -Press Enter

B) At the command prompt, type 'IPCONFIG /ALL' and press ENTER. The ISP's DNS servers are listed at the bottom of the information screen. If only one server is listed, enter this in the VXH960 1st DNS server, and leave the 2nd DNS server as default

Finally, make a note of the VXH960's unique MAC address - this can be found in the < SYSTEM SETUP> < SYSTEM > <SYSTEM INFORMATION> part of the VXH960 setup (page 46).

For example, if the MAC address is 00-11-5F-00-9A-33, the following should be entered instead of an IP address when configuring a VXH960 connection group:

00115f009a33.dvrlink.net:6200

Note: the entry should be MAC address.dvrlink.net, not MAC address.ddns.dvrlink.net

When the remote client initiates a connection, it interrogates dvrlink.net for the actual public IP address that corresponds to the MAC address. It then uses the resulting IP address to connect to the VXH960.

Appendix D

Open Source license Report on the Product

The software included in this product contains copyrighted software that is licensed under the GPL/LGPL.

~ GPL Software: linux kernel, busybox, cdrtools, dvd+rw-tools, smartctl, uboot, bash, udev, sysklogd
~ LGPL Software: glibc, vmstat, glib, gtk, libESMTP, iconv, gstreamer, pango,
~ OpenSSL License: OpenSSL

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Preamble

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Concept Pro

VXH960-4 | VXH960-8 | VXH960-16